MANITOBA

HEALTH ASSESSMENT

PROGRAM

1982

FINAL REPORT

MANITOBA
DEPARTMENT OF EDUCATION

MANITOBA HEALTH ASSESSMENT PROGRAM 1982

FINAL REPORT

A REPORT OF THE

CURRICULUM DEVELOPMENT AND IMPLEMENTATION BRANCH

DEPARTMENT OF EDUCATION

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PREFACE

The Final Report is the second of two reports on the findings of the Health Assessment Program 1982. It contains a summary of test results and interpretations, as well as conclusions and recommendations. These are based on the interpretations of panels of teachers, other educators, and members of the public. Regional meetings of teachers for the discussion of results and conclusions are planned for the 1982-83 school year. Teachers and other educators are encouraged to review the conclusions and recommendations for applicability to their programs and to their own students. A review of the objectives assessed by the tests is recommended prior to interpretation of results at the local level.

The first document, the Preliminary Report, contains a description of the program and details of student performance on several health topics and on actual test items. This information is presented for use by classroom teachers in forming judgments about the instructional program. All data are based on the provincial sample as a whole; no individuals, schools or divisions are identified.

COMMITTEES AND GROUPS ASSOCIATED WITH THE ASSESSMENT

Joint Committee on Evaluation

Brandon University, Faculty of Education: Pandy Halamandaris (to June, 1982)
Dr. James Hardy (from June, 1982)
Manitoba Association of School Superintendents: Robert Cross, Chairperson
Manitoba Association of School Trustees: Michael Buyachok (to September, 1982)
Mira Spivak (from September, 1982)
Roy White
Manitoba Department of Education,
Bureau de l'Education Francaise: Guy Roy (to January, 1982)
Gilbert Rosset (January to September, 1982)
Raymond Theberge (from September, 1982)
Curriculum Development and Implementation Branch: Stan Bullock (to September, 1982)
Ken Charlesworth (from September, 1982)
Henry Schulz
Manitoba Teachers' Society: John Gisiger
Tina Kehler (to September, 1982)
Judy Kruger (from September, 1982)
University of Manitoba, Faculty of Education: Winston Rampaul (to September, 1982)
Barbara Nelson (from September, 1982)

Consultants

Manitoba Department of Education, Research Branch: Michael Yakimishyn
Curriculum Development and Implementation Branch: Norman Mayer
Conrad Sigurdson

Recorder

Manitoba Department of Education, Curriculum Development and Implementation Branch: Barbara Brooks

Health Technical Advisory Committee

Conrad Sigurdson (Chairperson), Curriculum Development and Implementation Branch, Manitoba Department of Education
Geraldine Bisson, Norberry School, St. Vital School Division #6
Vic Corroll, School of Physical Education, University of Manitoba
Dexter Harvey, Faculty of Education, University of Manitoba
Linda McMillan, Graduate Studies, Faculty of Education, University of Manitoba
Marie Salway, Neepawa Health Unit, Neepawa
Frank Schaak, Winkler Elementary School, Garden Valley School Division #26
Lorne Schram, Pinawa Secondary School, Whiteshell School District #2408
Rita Schroeder, Emerson Elementary School, River East School Division #9
Shirley Whitaker, Westdale Junior High, Assiniboine South School Division #3

Consultants to Health Technical Advisory Committee

Manitoba Department of Education, Curriculum Development and Implementation Branch
Mary Brown
Robert Cordingley (to September, 1981)
Dick LaPage
Norman Mayer
Henry Schulz

Committees and Groups Associated with the Assessment (Cont'd.)

Item Writers

Vic Corroll
Linda McMillan
Lorne Schram
Helen Turner

Interpretation Panels

Grade 5

Lynda Corby, Director of Home Economics, Department of Health
Katherine Deyman, Stevenson-Britannia School, St. James-Assiniboia School Division #2
Arthur Miki, Harold Hatcher Elementary School, Transcona-Springfield School Division #12
Rhonda Plett, Dental Health Educator, Department of Health
David Price, Arborg Elementary, Evergreen School Division #22
Carolyn Schur, Director of Youth Programs, Canadian Red Cross Society (Manitoba Division)
Gary Sova, John M. King School, Winnipeg School Division #1
Patricia Vallance, School Board, Fort Garry School Division #5
Dawn White, Health Educator, Health and Community Services
Elinor Wilson, Director of Education, Manitoba Heart Foundation
Al Wirth, McAuley School, Fort La Bosse School Division #41

Linda McMillan, Graduate Studies, Faculty of Education, University of Manitoba, Panel Coordinator

Grade 10

Mrs. Kai Arnot, President, Winnipeg Teachers' Association
Dr. Orest Cap, Faculty of Education, University of Manitoba
Heather Cooke, Steinbach Regional Secondary School, Hanover School Division #15
Wayne Hess, Arborg Collegiate, Evergreen School Division #22
Frank L. McKinnon, Carman Collegiate, Midland School Division #25
Rae McMillan, Public Health Nurse, Department of Health
Patti Rutherford, Nutritionist, Manitoba Milk Producers Marketing Board
Jeannine M. Smigelski, Public Health Nurse, Department of Health and Community Services
Murray Smith, St. John's High School, Winnipeg School Division #1
Arnold Tweed, Medical Doctor, Manitoba Heart Foundation
Helene Wieler, School of Nursing, Red River Community College

Conrad Sigurdson, Curriculum Development and Implementation Branch, Department of Education, Panel Coordinator

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- The item writers who gave professional assistance in designing the test items.
- The Joint Committee on Evaluation which provided guidance throughout the program.
- The Health Technical Advisory Committee which advised on test production and analysis of results.
- The teachers and others who participated in the review of objectives.
- The school administrators, teachers, and students that were involved in the pilot testing.
- The school administrators and teachers who participated in the administrator and teacher surveys.
- The divisions and schools that released their teachers to assist in the program.
- The staff of the Curriculum Development and Implementation Branch and other branches of the Department of Education who provided necessary support throughout the program.

A WORD OF CAUTION ABOUT THE ASSESSMENT PROGRAMS

All measurements of knowledge and attitudes are subject to errors of measurement. These errors can occur in a number of ways: the specification of skills and objectives, the selection of materials and production of test questions, the weighting of questions, the interpretation of questions by students, the presentation of results, and the interpretation of these results. In the assessment program, effort has been made to minimize the error; nevertheless, the results should be regarded as estimates of the performance of students. Individual student diagnosis or grading on the basis of the tests should be attempted only in conjunction with other tests and assessments. Furthermore, the intent of the assessments is to obtain estimates of the performance of Manitoba students in general.

In the interpretation of results, it is not possible to attribute performance strengths and weaknesses to specific aspects of curriculum and instruction. In addition, a variety of societal factors must be considered. The data presented in this report provide initial estimates of the performance of Manitoba students.

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CHAPTER I

OVERVIEW AND HIGHLIGHTS OF THE HEALTH ASSESSMENT

Students in grades 5 and 10 participated in a Health Assessment Program in February, 1982. The grade 5 assessment measured student performance on Health objectives up to the end of grade 4 while the grade 10 assessment measured student performance on Health objectives up to the end of grade 9. Ten percent of students in all grade 5 and 10 classrooms were randomly designated for the provincial sample.

For their own use, schools were permitted to request that additional students write the tests. An estimated 90% of all grade 5 students and 44% of all grade 10 students wrote the tests.

The tests were designed to assess student Health knowledge, attitudes, and habits in a number of content areas. The objectives for assessment were outlined by the Technical Advisory Committee and reflected the recommendations of teachers from throughout the Province. The results provide information for curriculum review and development at the provincial and local levels, as well as for teachers and other educators to assist in the review of their programs.

Nature of the Assessment

The Health tests were designed to provide data on a number of objectives within major content areas. There are seven content areas delineated for both the grade 5 and 10 tests:

I.	DENTAL HEALTH	importance, characteristics, purpose of teeth; environmental factors; personal care
II.	SAFETY	accidents, practices, responsible action, responsibility, life support assistance
III.	MENTAL WELL-BEING	self-concept, perception, fulfillment, personality, social learnings, personal management
IV.	NUTRITION	food source, form, taste, appearance, classification; food patterns; wise food choices; diet; use for growth, repair, maintenance
V.	ENVIRONMENTAL HEALTH	effect of environmental factors; health care systems; shared community and personal cooperation
VI.	PHYSICAL WELL-BEING	growth and development; body protection and support by the integumentary, muscular, skeletal, and immune system; digestive, circulatory, respiratory, excretory, endocrine, nervous, and reproductive systems; sense organs, diseases, preventive practices
VII.	INTERPERSONAL RELATIONSHIPS	life as a process; functions of family; family life-style, stability, and harmony

Objectives within each content area differ according to their pertinence to each grade level. Related items were grouped to form subtests within each content area. The number of such subtests ranges from 1 to 5.

The tests were made up of both cognitive and affective domain questions. The cognitive questions are representative of 2 general levels of thinking:

1. Knowledge and Comprehension - the recalling and relating of facts, methods, procedures, patterns, structures, and the understanding of communications.

2. Application and Higher Level - application of generalizations and principles to relatively unique settings; analysis of situations, and identification and verification of principles.

Affective questions are representative of student habits, beliefs, values, attitudes, and intentions.

Assessment Procedures

The assessment began with the identification of grade levels and content areas. Teachers and Health specialists devised the objectives and test items. Approximately 56 teachers and Health specialists from throughout Manitoba participated in the review and selection of the objectives for assessment.

The results of the provincial sample were analyzed and reported in the Preliminary Report and distributed to schools in May, 1982. Interpretations of the results were determined with the assistance of 22 teachers, Health specialists, administrators, and trustees.

The Final Report contains a summary of the results and interpretations at both grade levels as well as the conclusions and recommendations based on the results.

Major Findings of the Student Assessment

Grade 5

Student performance was judged to be very satisfactory in the Dental area of importance and purpose of teeth, in the Safety area concerning safety in the home, in traffic, and in the school, and in the Mental Well-Being area of self-concept. Performance was judged as satisfactory in the Dental area of environmental factors and personal care, and in the Nutrition area of snacks. Student performance was marginal in the Mental Well-Being area of drug use and abuse and personal management, in the Physical Well-Being area of fitness, and in the area of Interpersonal Relationships. Performance was judged to be unsatisfactory in the Nutrition area of food groups, nutrients, and balanced meals, in the Environmental area of environmental factors and environmental health issues, and in the Physical Well-Being area of sense organs.

Grade 10

Student performance was judged to be very satisfactory in the Safety area of home, school, community, traffic, in the Mental Well-Being area of self-concept and personality, in the Environmental Health area of environmental issues, and in the Interpersonal Relationships area of life as a process. Performance was judged as satisfactory in the Mental Well-Being area of drug use and abuse, and personal management skills, in the Nutrition areas of nutritional effects, food influences, and weight control, in the Environmental Health area of Health care systems and solutions, and in the Interpersonal Relationships area of family functions and stability. Performance was judged as marginal in the Dental area, in the Safety area of life support assistance methods, and in the Physical Well-Being area of growth and

development. Performance was judged to be unsatisfactory in the Nutrition areas of food groups, and nutrients, of consumer knowledge, food preparation and balanced meals, as well as digestion and elimination, and in the Physical Well-Being areas of endocrine and reproductive systems, and disease control and preventive practices.

Major Findings of the Teacher and Administrator Surveys

These findings are based on information provided by teachers and administrators responding to the questionnaires administered in conjunction with the student assessment. More than 80% of teachers of grades 3, 4, 5, and 6 and almost 60% of schools with students in grades 7, 8, and 9 timetable Health as a separate subject.

The main school subjects within which Health is integrated are as follows:

Grade 3 - Social Studies, Science, and Language Arts

Grades 4, 5, and 6 - Science and Language Arts

Grades 7, 8, and 9 - Science, Physical Education, and Guidance.

The majority of schools are on a 5 or 6 day timetable cycle. There is a great variation in time devoted to Health instruction in these schools - from less than 20 to more than 100 minutes per cycle.

Of the major Health content areas, teachers of grade 3 to 6 spend the least time teaching Environmental Health and Interpersonal Relationships while teachers of grades 7, 8, and 9 spend the least time teaching Dental Health and Environmental Health.

Regarding some of the materials available for the teaching of Health, teachers in general are more satisfied with kits, pamphlets, and films than they are with Health texts and the provincial Health curriculum. Relatively few teachers take advantage of the numerous governmental and non-governmental agencies that provide support to schools for Health instruction. Furthermore, there is very little money expended on Health related materials in the schools.

Student performance in Health is usually evaluated and reported by teachers who timetable Health specifically, but not by teachers who integrate Health within other school subjects.

Teachers of grade 3 to 6 stated that the most important teacher preparation topics were "techniques in teaching Health" and "preparation of Health materials".

Summary of Recommendations

The recommendations arose from a synthesis of the student assessment results and the teacher survey and are presented in greater detail in the student achievement and survey chapters in this report. A summary of these recommendations is provided below.

Grade 5 Recommendations

- That the practice of good dental care be emphasized in the school as well as in the home.
- That students be taught that accidents can be prevented and that students be provided with accident prevention programs that promote responsible behaviour.
- That constructive communication of negative feelings such as anger and sadness be encouraged and facilitated.
- That stronger emphasis be placed on drug education, particularly on alcohol and caffeine.

- That food classification and nutrients receive strong emphasis in the schools.
- That the function, structure, and care of the organs of touch and hearing be emphasized in school programs.
- That co-operative efforts be made both at home and in the community to encourage nutritious snack selection by students.
- That knowledge of balanced meals be emphasized in the home and in the school.
- That immunization and disease control receive greater emphasis in the schools.
- That habits of hygiene be reinforced at school as well as in the home.
- That strong instructional emphasis be placed on the structure, function, and care of the cardio-respiratory system.
- That the development of skills and concepts that nurture friendship be emphasized in the schools.

Grade 10 Recommendations

- That purposes of teeth and their contribution to health be stressed in the schools.
- That dental knowledge and maintenance be emphasized by teachers and dental hygienists.
- That first aid instruction be provided by qualified instructors.
- That balanced meal planning, nutrition oriented shopping, and food preparation be addressed in the schools.
- That the teaching of nutrition and digestion be strongly emphasized.
- That students be made aware of positive actions and alternatives to deal with environmental issues both individually and at the community level.
- That much greater emphasis be placed on all body systems and on disease prevention and control in instructional programs.

In general, greater emphasis should be applied in educating students on issues in which the individual person can take action - in daily living practice, to improve quality of life.

Survey Recommendations

- That teachers provide instructional time for Health education as recommended by Department of Education guidelines.
- That teachers spend an appropriate amount of Health teaching time teaching each content area.
- That teachers be made aware of the new Provincial Health Curriculum presently being piloted in Manitoba schools.
- That the Department of Education prepare a list of recommended Health resource materials that support the new Health curriculum.
- That the Department of Education provide evaluative models and materials to assist teachers in the assessment of student lifestyle practices.
- That teachers be encouraged to update their knowledge of Health related topics through inservices and university courses.

CHAPTER II

THE HEALTH ASSESSMENT PROGRAM

The Health Assessment Program is part of the overall Manitoba student assessment program, as recommended by the Joint Committee on Evaluation and approved by the Minister of Education. The purposes for the assessment programs are:

1. To provide benchmark indicators about the level of student achievement in the Province of Manitoba.
2. To obtain data on student achievement that will assist in curriculum and program improvement at the provincial and local level.
3. To assist school divisions in student and system evaluation.
4. To help teachers improve their student evaluation skills.

Format of the Reports

The first chapter of this, the Final Report, provides a brief overview of the assessment procedures, findings, and recommendations. This material is a distillation of what follows in the remainder of the report, namely: achievement results and their interpretation, by grade level; results of the Teacher and Administrator Surveys; and conclusions and recommendations.

The raw data on student achievement were previously published without interpretation in the Manitoba Health Assessment Program 1982 Preliminary Report. Since publication of the Preliminary Report, the data have been reviewed by Interpretation Panels and the Technical Advisory Committee. The views of these groups have been incorporated into the summary presentation of results and interpretations provided in this document. All of the results presented in this report and the Preliminary Report are based on the province as a whole, with no identification of individuals, schools, or school divisions.

Health Content Areas: Cognitive and Affective Domains

The grade 5 and 10 Health tests were designed to assess the kinds of knowledge, attitudes, and habits given priority for assessment by Manitoba teachers. Student performance was determined on the objectives identified for assessment in each of the 7 content areas.

The 2 levels of the cognitive domain and the affective domain are described below with actual test items illustrating each.

Cognitive Domain

Knowledge and comprehension. The recalling and relating of facts, methods, procedures, patterns, structures, and the understanding of communications. The 2 examples below are from the grade 5 and 10 tests respectively. Students were asked to choose the best answer.

Fluorides are put into drinking water to

A. improve taste of water.

B. kill bacteria in water.

C. help prevent tooth decay.

D. whiten teeth.

What causes dental plaque?

A. Sugar, bits of food, calcium
B. Saliva, bacteria, calcium
C. Bacteria, chips of tooth, bits of food
D. Saliva, bacteria, bits of food

Application and higher levels. Application of generalizations and principles to relatively unique settings; analysis of situations, identification and verification of principles. The examples have been extracted from the grade 5 and 10 tests respectively.

Which of the following is a balanced meal?

A. Tuna sandwich, apple, orange juice

B. Peanut butter sandwich, bran muffin, carrot sticks

C. Chicken sandwich, salad, and a glass of milk

D. Egg sandwich, oatmeal cookies, and tomato juice

Sam had been friends with two other guys for over a year when they started smoking. When Sam refused to smoke, they made fun of him. Which one of the following actions might help Sam cope with his problem?

A. Tell his friends off
B. Find new friends so that he won't have to listen to the teasing
C. Start smoking
D. Let his friends know that the decision not to smoke is his own

Affective Domain

The Affective questions were designed to measure health attitudes, habits and feelings. There are no "correct" or best answers; answers to these questions provide an indication of what students actually do, or would do, how they feel, and what they believe rather than what they understand. Examples of affective questions from the grade 5 and 10 levels respectively are:

How often do you floss your teeth?

__ At least once a day

__ 2 or 3 times a week

__ Once a week

__ Never

If you were having emotional problems, what would you do first?

A. Accept it as part of life and feel it will "go away"
B. Seek medical help
C. Talk to your friends and parents
D. Seek help from the guidance counsellor
E. Seek help from the school nurse

Content Areas

The number of test questions at each grade level pertaining to the content areas and cognitive and affective levels are specified in Table 1.

Table 1

Number of Test Items for Content Areas and Levels of Learning

Content areas		Levels of learning		
		Knowledge and Comprehension	Application and Higher Level	Affective
		Grade 5		
I.	Dental Health	8	3	4
II.	Safety	8	6	5
III.	Mental Well-Being	5	3	16
IV.	Nutrition	8	4	17
V.	Environmental Health	-	5	13
VI.	Physical Well-Being	4	6	4
VII.	Interpersonal Relationships	-	4	9
		Grade 10		
I.	Dental Health	5	-	5
II.	Safety	4	6	5
III.	Mental Well-Being	7	13	6
IV.	Nutrition	8	10	4
V.	Environmental Health	7	4	4
VI.	Physical Well-Being	10	9	5
VII.	Interpersonal Relationships	3	10	6

Steps in the Assessment Program

The procedures of the Health Assessment Program are similar to those followed for previous provincial assessments conducted by the Department of Education. Following the selection of Health as the area for assessment, a Health Technical Advisory Committee (Health TAC) and a team of item writers were established to assist in the actual production of the tests and reporting of the results.

The Health TAC consisted of six teachers with experience in teaching Health, two university Health education professors, one community Health educator, and members of the Curriculum Development and Implementation Branch of the Department of Education. A member of the Curriculum Development and Implementation Branch of the Department of Education served as chairperson of the TAC. The team of item writers included three school Health educators and one university Health education professor.

The major steps involved in the Assessment Program are outlined below:

Step One: Identification of Objectives

The TAC identified a list of objectives from within specific content areas of Health education for each of the two grade levels. These objectives were designed to encompass skills up to the end of grade 4 for the grade 5 test and up to the end of grade 9 for the grade 10 test.

Step Two: Selection of Objectives

Teachers of Health from districts and divisions throughout Manitoba supplemented and rated the importance of the objectives for instruction and for assessment. Regional meetings were held in various locations in Manitoba for this purpose. The data collected at the meetings were compiled and used in the selection of objectives for the tests.

Step Three: Production of Test Items

The TAC recommended the format and the specifications for the tests based on the input from teachers at the regional meetings. The item writers, with the assistance of the TAC, produced test items according to the specifications. Special attention was given to the development of affective test items measuring student attitudes, habits, and feelings. Items at various cognitive levels were also produced. All test items were reviewed and modified, when necessary, by the TAC before inclusion in the pilot tests. This was done to ensure accuracy of the wording, appropriate readability, and technical quality of the items.

Step Four: Pilot Testing

The pilot tests were administered to several classes of students at each of the two grade levels. The test results were analyzed to determine the adequacy of test items. Items were modified or deleted as necessary by the TAC and rewritten by the item writers.

The final versions of the tests were reviewed and edited by the TAC.

Step Five: Provincial Administration of Tests

The tests were administered on the morning of Wednesday, February 17, 1982, to

students in grades 5 and 10.

Approximately 10 percent of the students in grades 5 and 10 in Manitoba public schools were randomly designated for the provincial sample. Table 2 indicates the provincial sample of tests at each grade level. The actual sample of student tests analyzed was approximately 89 percent of the designated sample. The sample loss was due primarily to student absence and transfer and varied according to grade level or group tested.

Tests at both the grade 5 and 10 levels were divided into two parts, the first part containing affective items and the second part containing cognitive items. At the grade 10 level, all questions were multiple choice format. Answers were placed on a standard answer sheet for machine scoring. In grade 5, all questions were multiple choice except for 4 completion items in the affective section. All affective items were answered in the test booklet and scored by the Department of Education. Cognitive items were answered on a standard answer sheet for machine scoring.

Table 2

Provincial Sample of Tests

Grade	Number of students eligible	Number and percentage of students in sample	
		Number	Percentage
5	14,880	1444	9.70
10	15,001	1270	8.47

Step Six: Reporting of Results

The Preliminary Report on Health test data was produced and distributed to all schools. The Final Report presents a summary of the results at both grade levels as well as the results of the teacher and administrator surveys. Interpretations, conclusions, and recommendations are included in this report.

Step Seven: Interpretation of Results

Since no adequate performance criteria were available from previous Health assessments, the actual performance of students was evaluated by an Interpretation Panel for each of the tests. The Interpretation Panels consisted of a representative group of Health teachers, additional professionals in the Health field, and members of the public. The input of the Interpretation Panels was used by the TAC to make conclusions and recommendations presented in the Final Report.

The members of the Interpretation Panel for each test reviewed the test questions and determined two levels of performance:

> "Adequate performance -- the minimum percentage of students in the Province that you think must answer an item correctly in order for the performance to be considered satisfactory. Performance below the adequate level would, in your opinion, be considered indicative of a weakness."

> "Desirable performance -- the percentage of students in the Province that you would like to see complete an item correctly; a goal toward which to strive. Performance at or above the desired level would, in your opinion, be considered indicative of a strength."

The item estimates for adequate and desirable performance were averaged for all items belonging to a particular topic area or subtest, thus providing estimates for the subtest. This was done without recourse to the actual data of the provincial samples.

Interpretation Panel members rated the performance of the provincial sample on each subtest by comparing actual achievement with their estimated adequate and desirable levels of performance. The following five-point scale was used:

STRENGTH:	Actual achievement is well beyond what is acceptable, and at or above what is desirable.
VERY SATISFACTORY:	Actual achievement is somewhat beyond what is acceptable, but below what is desirable.
SATISFACTORY:	Actual achievement corresponds to that which is acceptable.
MARGINAL:	Actual achievement is somewhat below what is acceptable but not to the point of being totally unacceptable. This is considered to be an area where some additional work seems necessary.
UNSATISFACTORY:	Actual achievement is well below what is acceptable. This is considered to be an area of weakness and remediation is deemed necessary.

French Language Versions of the Health Tests

The Joint Committee on Evaluation recommended that the test instrument for Health be produced in both the French and English languages at the grade 5 and 10 levels. Production of two versions of an assessment instrument in different languages is a complex procedure involving more than mere translation. Cereco Incorporated, was contracted by the Department of Education to translate the English language tests into French.

Teachers had the option of testing their students in either the English or French language. Student results are reported on a provincial basis only. Thus, there is only one set of results per grade level combined for the English and French language students in the provincial sample.

Teacher and Administrator Surveys

In addition to the assessment on student achievement, teachers at the grade 3, 4, 5, and 6 levels and school administrators of schools that contained students in all grades 7, 8, and 9 were surveyed to collect information which would assist in the general interpretation of the student achievement data. The surveys and their findings are discussed in Chapter 5.

CHAPTER III

GRADE 5 RESULTS

The grade 5 test consisted of 133 items, cognitive and affective, divided among the seven content areas: Dental Health, Safety, Mental Well-Being, Nutrition, Environmental Health, Physical Well-Being, and Interpersonal Relationships.

A total of 1444 grade 5 students, 727 males and 711 females, formed the provincial sample for the assessment program. This is approximately 93% of the 10% sample designated for the provincial survey.

Achievement Results

The actual results, together with the ratings of the Interpretation Panel, are presented in Table 3. Each of the subtests are discussed in turn. For details of student performance on the items, refer to the Preliminary Report.

The Interpretation Panel ratings are based on a five-category scale: Strength, Very Satisfactory, Satisfactory, Marginal, and Unsatisfactory. A description of these categories and the rating procedure is given on pages 9 and 10 in Chapter 2.

I. Dental Health

I.A Importance and Purpose

Cognitive

Performance on this subtest was viewed as being "Very Satisfactory". The results indicate that students have acquired a good knowledge of the importance and purpose of teeth. 70% of the students answered at least three of the four questions correctly. The item below, involving the relationship of primary teeth to permanent teeth proved to be the most difficult with 50% selecting B.

Primary teeth are helpful to permenent teeth because they
A. increase enamel.
*B. keep growth spaces.
C. prevent cavities.
D. increase fluoride.
Note. * indicates the best or correct answer

Affective

Responses to the affective questions in this subtest reveal that students have developed a positive attitude toward maintaining healthy teeth throughout their lifetime. Students at this age view teeth as being more important for eating rather than for speaking or appearance.

I.B Environmental Factors and Personal Care

Cognitive

This subtest contained seven items with a mean score of 69% and was rated by the Panel as "Satisfactory". The items dealt with care of the teeth; plaque prevention, the dental check-up, nutritional effects, and the purpose of fluorides. The results show that students have a good knowledge of personal care practices but not of the effects of fluoride on teeth. In general, females outperformed males in this subtest. (See Table A in Appendix 1 for male and female mean scores.)

Table 3

Average Percentage Correct and Interpretation Panel Ratings for Grade 5 Cognitive Subtests

Content area with subtest data	No. of items	Average percentage correct	Interpretation panel rating
I. DENTAL HEALTH			
I.A Importance and purpose	4	73	Very satisfactory
I.B Environmental factors and personal care	7	69	Satisfactory
II. SAFETY			
II.A Home and traffic	8	80	Very satisfactory
II.B School	6	77	Very satisfactory
III. MENTAL WELL-BEING			
III.A Self-concept	2	78	Very satisfactory
III.B Personality	-	-	-
III.C Drug use and abuse, personal management	6	58	Marginal
IV. NUTRITION			
IV.A Acceptability and appreciation	-	-	-
IV.B Food groups, nutrients	6	49	Unsatisfactory
IV.C Snacks	2	65	Satisfactory
IV.D Balanced meals	4	44	Unsatisfactory
V. ENVIRONMENTAL HEALTH			
V.A Environmental factors	3	49	Unsatisfactory
V.B Environmental health issues	2	60	Unsatisfactory
VI. PHYSICAL WELL-BEING			
VI.A Sense organs	5	60	Unsatisfactory
VI.B Hygiene	-	-	-
VI.C Fitness	5	64	Marginal
VII. INTERPERSONAL RELATIONSHIPS	4	58	Marginal

The item below was correctly answered by 80% of the students.

Why is flossing important for healthy teeth?

*A. It removes plaque and sticky foods
B. It helps teeth to grow straight
C. It keeps tooth enamel white

Only 41% of students selected the correct response in the item below; 44% believed the purpose of fluorides is to kill bacteria in water.

Fluorides are put into drinking water to

A. improve taste of water.
B. kill bacteria in water.
*C. help prevent tooth decay.
D. whiten teeth.

Affective

The results of the affective items show that 77% of students are brushing their teeth at least once a day but that the practice of flossing is not extensive at the grade 5 level.

How often do you floss your teeth?

__ At least once a day
__ 2 or 3 times a week
__ Once a week
__ Never

Only 28% of students reported flossing once a day, 19% flossed 2 or 3 times a week, 19% flossed once a week, and 32% never flossed.

II. Safety

II.A Home and Traffic

Cognitive

Performance on the 8 cognitive items in this subtest rated "Very Satisfactory". Home hazards, bicycle and pedestrian safety were well done with a mean score of 80%. This was illustrated by the responses to the item below in which 88% selected the correct response.

If your clothing catches fire, what is the best method of putting the fire out?

A. Shout for help
B. Pour water on your clothes
*C. Drop and roll
D. Look for a blanket

Affective

The affective items tested student attitudes toward accident prevention. The responses indicate that students believe they can prevent accidents only some of the time.

II.B School Safety

Cognitive

The subtest on school safety contained six items with a mean score of 77%. This was rated "Very Satisfactory" by the Panel. Performance on the test items indicates students possess a good knowledge of school safety practices. In general, females outperformed males in this subtest. Ninety-two percent of students selected the correct response to this item:

> Which safety rule is most important when you are in the halls or on stairways?
>
> A. Be careful of your teeth
> B. When exercising, be in control
> *C. Walk, don't run
> D. Watch for broken glass
> E. Don't play with matches

Affective

Student responses to the affective items of this subtest demonstrate a responsible attitude for the safety of others. Eighty-nine percent of students selected the B and D responses in this item:

> During gym class, you see that the ladder is not properly fastened to the climbing frame. You would
>
> A. attempt to fix it yourself.
> B. tell the teacher immediately.
> C. tell the teacher when she is not busy.
> D. warn the other children not to climb the ladder.

III. Mental Well-Being

III.A Self-concept

Cognitive

Student performance on self-concept items was rated as "Very Satisfactory" with an average score of 78%. The results indicate that students recognize and appreciate the individuality of people. In general, females outperformed males in this subtest. The item below had an 85% correct response:

> Bob and Ken are both eleven years old. Bob is 120 cm tall and Ken is 140 cm. Why might there be a difference in the boys' height?
>
> A. Bob does <u>not</u> get enough rest
> B. Ken exercises more
> *C. Each boy is growing at his own rate

Affective

The results of the affective questions in this subtest show that doing well at school and caring about classmates are very important to grade 5 students. These choices reflect student beliefs that individuality is important in comparison with the other options--helping to win a game and wearing a new outfit. For example, 83% believed that it is very important to do well on a test while only 36% believed it to be very important to help win a game.

How important are each of the following to you?

104. You help win a game	VERY IMPORTANT ☐	IMPORTANT ☐	NOT IMPORTANT ☐
105. You are wearing a new outfit	VERY IMPORTANT ☐	IMPORTANT ☐	NOT IMPORTANT ☐
106. You do well on a test	VERY IMPORTANT ☐	IMPORTANT ☐	NOT IMPORTANT ☐
107. You are nice to a classmate who does not have many friends	VERY IMPORTANT ☐	IMPORTANT ☐	NOT IMPORTANT ☐

Students also expressed high respect for people who are honest, kind and friendly. These personal characteristics are judged more important than those of intelligence and industriousness.

III.B Personality

Affective

Seven affective items dealing with emotions made up this subtest. After studying the responses, the Panel concluded that although students at the grade 5 level are generally happy at school, they do not often communicate negative feelings such as anger, sadness, and disappointment. This is illustrated in the item below in which 32% of students selected "stay angry for awhile", 29% selected "think of things to make you happy", and only 26% selected "talk with someone about your feelings":

When you feel very angry, you usually

__ think of things to make you happy.
__ stay angry for awhile.
__ are nasty with people around you.
__ talk with someone about your feelings.

III.C Drug Use and Abuse, Personal Management

Cognitive

With an average percent correct of 58%, this subtest was rated as "Marginal". Correct responses ranged from 25% - 87% in the 5 items. Students demonstrated a good knowledge of the effect of smoking and the use of medicines as illustrated in this item:

Which parts of the body does smoking affect most?

A. Liver, lungs
B. Stomach, lungs
*C. Heart, lungs
D. Heart, liver

Eighty-two percent of students responded correctly. Student knowledge of the effects of drugs such as alcohol and caffeine (cola) was weak with 44% answering the first item below correctly and 25% answering the second correctly:

Which parts of the body does alcohol affect most?

A. Heart lungs
B. Stomach, muscles
C. Lungs, liver
*D. Brain, liver

How do Pepsi and Coca Cola affect your body?

A. Decrease your heart rate
B. Make you feel sleepy
C. Clog up your blood vessels
*D. Increase your heart rate

IV. Nutrition

IV.A Acceptability and Appreciation

Affective

Ten affective questions made up this subtest. Responses indicate that students know the nutritional difference between chocolate cake and carrots. Seventy-five percent indicated that they eat chocolate cake because it is tasty and 73% recognize that it is not nutritious. Seventy-seven percent eat carrots because they are tasty and 92% because they are nutritious. Eighty-five percent responded that they know what foods are good for them.

IV.B Food Groups, Nutrients

Cognitive

Results on this subtest were rated "Unsatisfactory" by the Interpretation Panel. In the food classification items below, 81% of the students answered the first item correctly while only 37% knew that peanut butter belongs to the meat group. In general, females outperformed males in this subtest.

Which of these foods belongs to the same food group as bananas?

*A. Tomatoes
B. Bread
C. Chicken
D. Eggs

To which food group does peanut butter belong?

A. Breads and cereals
B. Milk
C. Fruits and vegetables
*D. Meat

Students showed a good knowledge of the benefits of calcium in the item below in which 73% scored correctly:

> Calcium is found in all milk products and helps to
>
> A. build muscles.
> B. digest food.
> C. keep our skin healthy.
> *D. build strong bones and teeth.

The other two nutrient items indicated poor knowledge of the nutrient carbohydrate.

IV.C Snacks

Cognitive

The subtest received a "Satisfactory" rating with 65% as the average percent correct. In general, females outperformed males in this respect. In this item, 76% selected the correct response:

> From the examples, which is a nutritious snack?
>
> A. Popsicle
> B. Orange jello
> C. Chocolate bar
> *D. Peanuts

Affective

The affective items indicate that a great number of students are not selecting nutritious snacks. This item had a 50% "Undecided" response:

> You choose nutritious foods when you buy your own snacks.
>
> __ Agree
> __ Undecided
> __ Disagree

In the 4 items below, students indicated snack choices which, in scoring, were classified into the 4 food groups and "other". Forty-four percent selected foods not included within the 4 food groups in the first item; 11% chose these in the second item; 22% in the third item; and 11% in the final item. Drinks and chips were popular "other" items at a sports game.

> Write in the snack you would choose
>
> at a sports game . . . . _____ _____.
> at a movie . . . . . _____.
> after school . . . . . _____.
> before you go to bed . . _____.

IV.D Balanced Meals

Cognitive

The average percent correct for this subtest was 44. The Interpretation Panel considered this as "Unsatisfactory". Although the items required a higher level of thinking, results demonstrate a weakness in the knowledge of balanced meals. In general, females outperformed males in this subtest. The item below had the highest performance with 61 percent correct.

Leslie had orange juice, an egg, and toast for breakfast. Which choice of a morning snack would help balance her breakfast?

A. Apple
*B. Glass of milk
C. Granola bar
D. Carrot sticks

V. Environmental Health

V.A Environmental Factors

Cognitive

The average percent correct for this subtest was 49%, receiving an "Unsatisfactory" rating from the Panel. Correct responses ranged from 13% to 70% on the items in the subtest. In general, females outperformed males in this subtest. Students know the effects of poison ivy as indicated in the 70% correct response for this item:

Why should one avoid poison ivy?

A. The prickles would stick into your hand
*B. You could get a red rash and small blisters
C. The flowers are poisonous

Affective

The affective questions show that students have a positive attitude toward littering and understand that man is responsible for pollution.

V.B Environmental Health Issues

Cognitive

Subtest results were given an "Unsatisfactory" rating by the Interpretation Panel. Student knowledge of how to prevent spreading a cold is weak. Although 64% know that immunization is the best method of preventing measles and mumps, a better knowledge of immunization was recommended by the Interpretation Panel. In general, females outperformed males in this subtest.

Affective

In the affective items, students viewed safe drinking water, clean air, police service, and hospital services as being very important to community health.

VI. Physical Well-Being

VI.A Sense Organs

Cognitive

The average percent of this subtest was 60. This was considered "Unsatisfactory" by the Panel. Correct responses range from 34% to 79%. Student knowledge of care of the eyes was good with a 79% correct response for this item:

All of these protect the eyes EXCEPT

A. sunglasses.
B. industrial goggles.
C. eyelashes.
*D. rubbing the eyes.

Performance on the 2 items below dealing with the ears and sense organs was weak with 34% and 49% of the students respectively choosing the correct response:

All of these protect the ears EXCEPT

A. wearing a hat over the ears.
*B. cleaning the ears with a Q-Tip.
C. keeping objects out of the ears.
D. turning the volume down on record players.

The sense organs for touch are found in the

A. hair.
B. muscles.
*C. skin.
D. bones.

VI.B Hygiene

Affective

The results of the affective items indicate that 50% of students always wash their hands before eating and before preparing meals while 73% report always washing their hands after using the toilet.

VI.C Fitness

Cognitive

Student performance was rated "Marginal" with an average percent correct of 64. The scores were highest in those items relating to physical education. This is illustrated in the item below in which 75% of the students chose the correct response:

John would like to increase the strength of his legs. Select an exercise which will best help him do this.

A. Push-ups
*B. Vertical jumps
C. Sit-ups

Students know the location of the lungs but do not know their function. This item was answered correctly 34% of the time.

The function of the lungs is to

A. pump blood through the body.
B. expand the chest.
C. take in oxygen.
*D. exchange oxygen and carbon dioxide.

VII. Interpersonal Relationships

Cognitive

Scores in this subtest were rated as "Marginal" by the Interpretation Panel. The average percent correct on the four items was 58. The items tested knowledge of family relationships and friendships. In general, females outperformed males in this respect. Students demonstrate a good knowledge of family responsibility as illustrated in the 70% correct response for this item:

Janet's mother is in bed with a cold and her younger sister is upset. How can Janet help her family?

*A. Read a story to her sister
B. Invite her friends to the house to play
C. Go to the store
D. Watch television

The item below shows that students are beginning to think in terms of assertive communication. There was a 59% correct response:

Bill and Fred were playing with Bill's models. Fred knocked the best one on the floor and it broke. What should Bill do?

A. Ask Fred to apologize
*B. Tell Fred it was an accident and try to repair it with him
C. Tell Fred it is alright and hide his disappointment
D. Ask Fred to buy a new model

Student understanding of friendships is weak. This item was answered correctly by 41% of the students:

The most likely reason why two people become friends is that they

A. are in the same classroom.
*B. have the same interests.
C. go to the same school.
D. live close to one another.

Conclusions and Recommendations

The following conclusions and recommendations were determined from the student performance at the grade 5 level. Since the grade 5 test was based on Health objectives up to the end of grade 4, these conclusions and recommendations apply to the grade 1 to 4 Health programs.

I.A
- Students have a good knowledge of the importance and purpose of teeth.
- Students expect to have their teeth for their lifetime and demonstrate a positive attitude towards personal care.
- Teeth are more important to students of this age for eating rather than for appearance or for speaking.
- Students do not know the relationship of primary to permanent teeth.

RECOMMENDATION: That the relationship of primary to permanent teeth be emphasized in the schools.

I.B
- Students have a good understanding of how to care for teeth.
- The majority of students are brushing at least once a day.
- Students do not know the purpose of fluorides.
- Students are not flossing regularly.

RECOMMENDATIONS: That the purpose of fluorides in drinking water be taught.

That the practice of good dental care be emphasized in the school as well as in the home.

II.A - Students have a very good knowledge of home hazards, bicycle and pedestrian safety rules.

- The majority of students do not believe that accidents can be prevented.

RECOMMENDATIONS: That students be taught that accidents can be prevented.

That students be provided with accident prevention programs that promote responsible behavior.

II.B - Students demonstrate a good knowledge of school safety rules and a responsible attitude for safety of others at school.

III.A - Students recognize and appreciate the importance of peoples' different values, individuality, and special abilities.

- Students see the characteristics of honesty, kindness, and friendliness as important.

III.B - Students are generally happy at school.

- Students usually don't talk to others when feeling angry or sad.

RECOMMENDATION: That constructive communication of negative feelings such as anger and sadness be encouraged and facilitated.

III.C - Students have a satisfactory knowledge of the effects of smoking and the use of medicines.

- Student knowledge of the effects of alcohol and caffeine is weak.

RECOMMENDATION: That stronger instructional emphasis be made on the harmful effects of alcohol and caffeine.

IV.B - Student understanding of food classification and nutrients is weak.

RECOMMENDATION: That food classification and nutrients receive strong emphasis.

IV.C - Classification of snacks is satisfactory; however, actual snack selection habits indicate non-nutritious foods.

- Snacks selected at home are more nutritious than those selected within the community at large.

RECOMMENDATION: That co-operative efforts be made both at home and in the community to encourage nutritious snack selection by students.

IV.D - Students are very weak in their understanding of balanced meals. This is due to weakness in food classification and nutrients.

RECOMMENDATION: That knowledge of balanced meals be emphasized in the home and in the schools.

V.A - Students have a good understanding of the causes of water pollution.

V.B - Students demonstrate an awareness and appreciation for health and community services.

- Student knowledge of immunization and the prevention of the spread of common illness is not strong.

RECOMMENDATION: That immunization and disease control receive greater emphasis in the schools.

VI.A - Student understanding of the sense organs of hearing and touch is weak.

RECOMMENDATION: That the function, structure, and care of the organs of touch and hearing be emphasized in the schools.

VI.B - Student habits of hygiene are adequate.

RECOMMENDATION: That habits of hygiene be reinforced at school as well as in the home.

VI.C - Knowledge of the cardio-respiratory system is weak.

RECOMMENDATION: That strong emphasis be placed on the structure, function and care of the cardio-respiratory system.

VII. - Student understanding of friendships is marginal.

RECOMMENDATION: That the development of skills and concepts that nurture friendship be emphasized in the schools.

CHAPTER IV

GRADE 10 RESULTS

The grade 10 test consisted of 131 items, cognitive and affective, divided among the seven content areas: Dental Health, Safety, Mental Well-Being, Nutrition, Environmental Health, Physical Well-Being, and Interpersonal Relationships.

A total of 1270 grade 10 students, 581 males and 671 females, formed the provincial sample for the assessment program. This is approximately 84% of the 10% sample designated for the provincial survey.

Achievement Results

The actual results, together with the ratings of the Interpretation Panel, are presented in Table 4. Each of the subtests are discussed in turn. For details of student performance on the items, refer to the Preliminary Report.

The Interpretation Panel ratings are based on a five-category scale: Strength, Very Satisfactory, Satisfactory, Marginal, and Unsatisfactory. A description of these categories and the rating procedure is given on pages 9 and 10 in Chapter II.

I. Dental Health

I.A Environmental Factors and Personal Care

Performance on the five items in this subtest was rated "Marginal" by the Interpretation Panel. The mean score was 60% ranging from 28% to 84%. Scores on items dealing with dental care were the highest. In general, females outperformed males in this subtest. (See Table B in Appendix I for male and female mean scores.) There was an 84% correct response to this item:

Good dental care includes

A. drinking plenty of liquids.
*B. seeing a dentist regularly.
C. eating natural rather than processed sugar.
D. using a mouthwash regularly.

NOTE. * Indicates the best or correct answer.

Environmental factors proved to be a weaker area. This item tested knowledge of dental plaque and had a 45% correct response:

What causes dental plaque?

A. Sugar, bits of food, calcium
B. Saliva, bacteria, calcium
*C. Bacteria, chips of tooth, bits of food
D. Saliva, bacteria, bits of food

The affective items showed that students have poor flossing habits; 41% responding that they never floss.

II. Safety

II.A Home, School, Community, Traffic

Performance in this subtest had a 78% mean score and was rated "Very Satisfactory" by the Panel. Students demonstrate a good knowledge of safety prevention in home,

Table 4

Average Percentage Correct and Interpretation Panel Ratings for Grade 10 Cognitive Subtests

Content area with subtest data	No. of items	Average percentage correct	Interpretation panel rating
I. DENTAL HEALTH			
I.A Environmental factors and personal care	5	60	Marginal
II. SAFETY			
II.A Home, school, community, traffic	6	78	Very satisfactory
II.B Life support assistance methods	4	68	Marginal
III. MENTAL WELL-BEING			
III.A Self-concept and personality	11	77	Very satisfactory
III.B Drug use and abuse, personal management skills	9	75	Satisfactory
IV. NUTRITION			
IV.A Food group nutrients	3	64	Unsatisfactory
IV.B Nutritional effects	5	69	Satisfactory
IV.C Food influences, weight control	3	59	Satisfactory
IV.D Consumer knowledge, food preparation, balanced meals	5	61	Unsatisfactory
IV.E Digestion and elimination	2	41	Unsatisfactory
V. ENVIRONMENTAL HEALTH			
V.A Environmental issues	4	82	Very satisfactory
V.B Health care systems, solutions	7	68	Satisfactory
VI. PHYSICAL WELL-BEING			
VI.A Growth and development	6	67	Marginal
VI.B Endocrine and reproduction	6	58	Unsatisfactory
VI.C Disease control and prevention	7	64	Unsatisfactory
VII. INTERPERSONAL RELATIONSHIPS			
VII.A Life as a process	2	68	Very satisfactory
VII.B Family functions and stability	11	73	Satisfactory

school, community, and traffic environments. The item below was answered correctly by 92% of the students:

Mrs. James wants to prevent accidents. What should she do?

A. Take the poison container to the hospital along with a child who has swallowed a poison
*B. Store medicines and poisonous substances out of the reach of children
C. Keep emergency telephone numbers next to the telephone
D. Buy a static-free rug for the livingroom floor

II.B Life Support Assistance Methods

A mean score of 68% on this subtest received a "Marginal" rating. Results indicate that students are weak in first aid knowledge. Thirty percent of students feel a first aid course would be of little value. The item below was answered correctly by 46% of the students:

Carol arrives at a car accident. A man is bleeding very badly and seems to be in shock. What should Carol do first?

A. Remove the man from the car
B. Go call an ambulance
C. Begin to treat the man for shock
*D. Try to stop the bleeding
E. Do nothing for fear of a lawsuit

III. Mental Well-Being

III.A Self-Concept and Personality

Eleven items made up the subtest and the mean score was 77%. This was rated as "Very Satisfactory" by the Panel. In general, females outperformed males in this subtest. Students demonstrated a good understanding of personality as illustrated in this item which was answered correctly by 84% of the students:

Personality changes can occur

A. until adulthood.
B. only in the first two years of life.
*C. throughout a person's life.
D. only during the growth of the fetus (unborn baby

A 48% correct response to this item shows student lack of understanding of self-image:

An important part of a good self-image is knowing that

*A. you are worthwhile.
B. you have money.
C. you have reached your potential.
D. you have good friends.

Students demonstrated a good knowledge of social responsibility. This item had an 88% correct response:

Mary borrowed five dollars from Sally and promised to repay her within one month. Two months have passed and Sally has not been repaid. Choose the MOST responsible way for Sally to handle this problem.

*A. Sally should remind Mary she owes her money and ask Mary when she will pay it
B. Sally should warn Mary that she will tell her older brother to force Mary to pay up
C. Sally should do nothing about it and hope that Mary remembers
D. Sally should try to borrow money from Mary and not repay it.

III.B Drug Use and Abuse, Personal Management Skills

Student performance of a 75% mean score was given a "Satisfactory" rating by the Panel. In general, females outperformed males in this subtest. Knowledge of smoking and its effects is good. The following item was answered correctly by 84% of the students.

One of the MOST COMMON reasons young people start smoking is that

A. young people are less likely to gain weight when they smoke.
*B. smoking makes them feel older.
C. smoking soothes the throat.
D. smoking calms the nerves.

In the affective items of the subtest, 66% of students indicate that their parents are the greatest influence on their life, 60% choose to talk to parents and friends about emotional problems. The item below shows that 48% of students would abstain from drugs at a party:

You have been invited to a party at which drugs will be used. What would you do?

A. Go to the party and consume drugs
B. Go to the party, but abstain from drugs
C. Make up an excuse not to attend the party
D. Seek guidance
E. Decide not to go

IV. Nutrition

IV.A Food Groups, Nutrients

A mean score of 64% received an "Unsatisfactory" Panel rating. Results indicate a weakness in the area of food groups and nutrients. In general, females outperformed males in this subtest. The item below tested sources of protein and had a 50% correct response:

The best source of protein is

A. bananas.
*B. brown bread and beans.
C. mushrooms and carrots.
D. celery.

IV.B Nutritional Effects

Five items made up this subtest with student performance rating "Satisfactory". The mean score was 69% ranging from 44% to 87%. Students know the importance of nutrients to health but are weak in their knowledge of specific dietary deficiency diseases. In general, females outperformed males in this subtest. The item below had an 84% correct response and illustrates student knowledge of the importance of vitamins:

Vitamins are important in your diet during

A. early childhood.
B. adolescence.
C. adulthood.
*D. the entire life cycle.

The following item tested student knowledge of illness resulting from improper diet and was answered correctly by 44% of the students:

Which illness would you be most likely to get due to improper diet?

A. Glaucoma
B. Tetanus
*C. Anemia
D. Mumps

IV.C Food Influences, Weight Control

The mean score on this subtest was 59% and was rated as "Satisfactory". Student performance on items dealing with weight control was not adequate. Forty-four percent of the students selected the correct response for this item:

The major cause of overweight is

A. eating too much food.
B. eating an unbalanced diet.
*C. lack of physical activity.
D. glandular problems.

Responses to the affective items indicate that an average of 59% of students select food according to taste rather than by nutritional value. This item had a 61% response to choice A:

What determines your selection of food when you eat lunch in a cafeteria?

A. Your personal tastes
B. Good appearance
C. Selecting a balance of foods
D. What your friends eat
E. Cost

IV.D Consumer Knowledge, Food Preparation, Balanced Meals

Student performance was weak in this subtest with a 61% mean score. The Panel rating was "Unsatisfactory". Low scores occurred in items dealing with balanced meals, food preparation, and consumerism. In general, females outperformed males in this subtest. Fifty-five percent of the students selected the correct response to this item:

The following nutrition information is listed on a package of food:

food energy	100 calories
protein	2.0 gm
carbohydrates	23.0 gm
fat	0.57 gm

To which food group does this belong?

A. Meat and meat alternatives
B. Milk
*C. Bread and cereals
D. Fruit and vegetables

IV.E Digestion and Elimination

The subtest rating was "Unsatisfactory" with a 41% mean score. The item below illustrates weak student performance with 44% choosing the correct response:

Digestion of food occurs in

A. the mouth, stomach, and spleen.
B. the kidneys, stomach, and small intestine.
*C. small intestine, mouth, and stomach.
D. stomach, large intestine, and adrenal gland.

V. Environmental Health

V.A Environmental Issues

High scores in this subtest resulted in a "Very Satisfactory" Panel rating. The mean of the four items was 82%. Students have a good knowledge of environmental health as shown in the item below which had an 84% correct response:

What is the MOST polluting form of transportation in our society?

A. Railway engine
*B. Automobiles
C. Airplane
D. Ocean liner

The affective responses of this subtest indicate that students are uncertain about both personal and community responsibility to deal with environmental issues.

V.B Health Care Systems, Solutions

A 68% mean score in this subtest was given a "Satisfactory" rating. Scores ranged from 35% to 83%. Students showed strength in items dealing with pollution and car accident prevention. In general, males outperformed females in this subtest. The item below had an 83% correct response:

Communities prevent pollution of water by

*A. treating sewage water before it enters lakes and rivers.
B. breaking up ice in lakes and rivers.
C. keeping motor boats out of lakes and rivers.
D. stocking lakes and rivers with fish.

Only 49% believe that prevention should be the major emphasis in our health care system.

VI. Physical Well-Being

VI.A Growth and Development

The mean score of this subtest was 67%; rated "Marginal" by the Panel. Student performance was highest in those items relating to fitness. The item below had a 64% correct response:

Regular progressive exercise can affect body muscles by

A. causing shrinkage of muscle tissue because of the exercise demands.
*B. stimulating increased growth and development.
C. making the muscles tight and bulky.
D. causing wear and tear on the muscles.

Student knowledge of the defence system is weak with 46% selecting the correct response to this item:

The first defence against an infection in the body is the

A. kidneys.
*B. skin.
C. circulatory system.
D. nervous system.

VI.B Endocrine and Reproduction

Scores in this subtest were rated "Unsatisfactory". The mean score was 58%. In general, females outperformed males in this subtest. A 31% correct response to the item below indicates that students do not know the effects of drugs on the fetus:

Cigarette smoking during pregnancy increases the chance of a baby being born with

*A. lower intelligence.
B. unhealthy lungs.
C. poor vision.
D. a bad cough.

Many students do not know the structure and function of the reproductive system. This item was answered correctly by 55% of the grade 10 students:

The major function of the fallopian tubes is to

A. provide nutrient to the fetus (unborn child)
B. provide female hormones.
*C. carry ova (eggs) to the uterus.
C. hold the ovaries in place in the body

Knowledge of endocrine glands and their function is weak. The item below had a 48% correct response:

What do glands, such as the pituitary, the adrenal, and the pancreas, do?

A. Glands send out electrical impulses to organs to signal where infections are in the body
B. Glands produce vitamins to aid the growth of bones and skin
C. Glands make new cells to replace old cells in the body
*D. Glands make chemicals that regulate body processes

VI.C Disease Control and Prevention

Student performance rated "Unsatisfactory" with a 64% average score. Student knowledge of how immunization prevents disease is inadequate. In general, females outperformed males in this subtest. The item below had a 61% correct response:

How does a vaccine produce an immunity to a disease in the body?

A. It prevents germs from entering your blood stream
B. It fights germs in the blood
*C. It stimulates the body to produce antibodies that fight germs
D. It attacks and destroys disease germs

Students are not fully aware of regulations concerning the control of sexually transmitted diseases as indicated in the 55% correct response in this item:

Is it true that minors (young people below 18 years of age) can be examined and treated for venereal disease without parental consent and knowledge?

*A. Yes
B. No

VII. Interpersonal Relationships

VII.A Life as a Process

Results were rated "Very Satisfactory" by the Panel. The mean score was 68%. Students indicate they are comfortable in their present lifestage with 79% selecting "C" in the affective item below:

At what age in your life do you feel that you have had the most satisfaction and enjoyment?

A. 5 to 9 years
B. 10 to 12 years
C. 13 to 16 years

VII.B Family Functions and Stability

The 11-item subtest had a mean score of 73% which was rated as "Satisfactory". The results show that students have a good knowledge of family functions and responsibilities. In general, females outperformed males in this subtest. The item below had an 86% correct response:

Vic had the task of washing dishes at home every Friday and Saturday night. Which of the following is the best reason for Vic's washing the dishes?

A. Vic wouldn't watch T.V. so much
B. Vic could get his hands clean at least twice a week
C. Vic could brag to his friends about having to work hard
*D. Vic could help as part of the family

Conclusions and Recommendations

The following conclusions and recommendations were determined from the student performance at the grade 10 level. Since the grade 10 test was based upon objectives from the grade 7 to 9 Health programs, these conclusions and recommendations apply to the grade 7-9 Health programs.

I.A - Students have good knowledge of proper dental practices.
- Students are weak in the topics of plaque and the purposes of teeth.
- Students have very poor flossing habits.

RECOMMENDATIONS: That purposes of teeth and their contribution to health be stressed.
That causes of plaque and its consequences be taught to students at school.
That habits of flossing be strengthened and reinforced in school and in the home.

II.A - Students have a good knowledge of accident prevention and safety practices.

II.B - Students are weak in first aid knowledge and skills.

RECOMMENDATION: That first aid instruction be provided by qualified instructors.

III.A - Students have a satisfactory knowledge of some aspects of personality and social responsibilities.
- Students have a weak understanding of the term, "self-image".

RECOMMENDATION: That opportunities be provided in the schools for strengthening "self-image".

III.B - Student knowledge of smoking and its effects is good.
- Students see their parents as a strong influence and support in their lives.

IV.A - Student knowledge of food groups and nutrients is weak.

RECOMMENDATION: That strong emphasis be given to food groups and nutrients in instructional programs.

IV.B - Students recognize the importance of proper nutrition to health.

- Student knowledge of nutritional deficiency diseases is weak.

RECOMMENDATION: That knowledge of nutritional deficiency diseases be strengthened.

IV.C - The majority of students feel taste is most important when selecting food.

- Understanding of concepts of weight control is not adequate.

RECOMMENDATIONS: That students be instructed in the criteria for food selection.

That students receive appropriate instruction in weight control.

IV.D - Student knowledge of balanced meal planning, nutrition-oriented shopping, and food preparation is weak.

RECOMMENDATION: That balanced meal planning, nutrition-oriented shopping, and food preparation be addressed in the schools.

IV.E - Students have a poor knowledge of digestion and elimination.

RECOMMENDATION: That emphasis be placed on digestion and elimination in instructional programs.

V.A - Students have a good knowledge of environmental issues but are confused about personal and community responsibility to deal with such problems.

RECOMMENDATION: That students be made aware of positive actions and alternatives to deal with environmental issues both individually and at the community level.

V.B - Students have satisfactory knowledge of health care systems and solutions.

- Most students do not believe that health care systems should place major emphasis on prevention.

RECOMMENDATION: That prevention be emphasized as an approach to health issues.

VI.A - Student knowledge of fitness is satisfactory.

- Student knowledge of the body's defence system is weak.

RECOMMENDATION: That the structure and function of the body's defence system be taught with more emphasis.

VI.B - Student knowledge of the effects of drugs on the fetus is unsatisfactory.

- Student knowledge of the structure and function of the reproductive system is unsatisfactory.
- Student knowledge of the endocrine system is unsatisfactory.

RECOMMENDATIONS: That the effects of drugs on the fetus be taught with greater emphasis.

That the structure and function of the reproductive system be taught with greater emphasis.

That greater instructional emphasis be placed on the endocrine system.

VI.C - Student knowledge of disease control and prevention is unsatisfactory.

RECOMMENDATION: That emphasis be placed on teaching prevention and control of diseases, including those that are sexually transmitted.

VII.A - Students are comfortable in their present lifestage.

VII.B - Students have a satisfactory knowledge of family functions and stability.

In general, greater emphasis should be applied in educating students on issues in which the individual person can take action in daily living practice to improve the quality of life.

CHAPTER V

TEACHER AND ADMINISTRATOR SURVEYS

The teacher and administrator surveys were designed to collect information which would assist in the general interpretation of the student assessment data and to be of value to curriculum development committees, curriculum services personnel, as well as to teacher educators. Such factors as time spent on each Health topic, availability of resources, background of teachers, evaluation procedures, and whether or not Health is taught as a separate subject should be considered when attempting to interpret results. The data and its analysis will not provide cause-and-effect relationships, but will give a cross section of opinion and background. The general information obtained will not explain specific student results, but does establish generalities regarding programs. Recommendations based upon the survey data are presented at the conclusion of this chapter.

The Surveys

The surveys consisted of two separate questionnaires: the Teacher Questionnaire was sent to a sample of Health teachers in grades 3, 4, 5, and 6. The Administrator Questionnaire was sent to principals of schools that contained all three grades 7, 8, and 9.

At each of the grade levels 3, 4, 5, and 6, 240 teachers were randomly selected for the survey. This represents approximately 25% of the teachers at each of these levels. Since it is difficult to identify Health teachers at the grade 7, 8, and 9 levels, as Health is often integrated within other subjects rather than being taught as a separate subject, the questionnaire was developed for and administered to principals. Principals were requested to complete the questionnaires with the assistance of teachers in their schools who either taught Health as a subject or who taught some aspects of the Health program within other subjects. The number of grade 7, 8, and 9 students in these schools represented approximately 82% of all grade 7, 8, and 9 students in Manitoba. The number of questionnaires mailed to identified teachers and principals and the number and percent of questionnaires returned are indicated in Table 5.

Table 5

Number of Mailed Questionnaires and the Number and Percent of Return

Grade level(s)	Number Mailed	Number Returned	Percent Returned
3	240	168	70
4	240	156	65
5	240	149	62
6	240	147	61
7-9	250	210	84

The questionnaires were designed to assess such things as timetabling patterns, percent and amount of time devoted to each content area in the Health curriculum, the kind and amount of Health instructional input by other subject teachers, background and preparation preferences of teachers, human and physical resources employed by teachers, evaluation procedures, and budgets allocated for Health materials. During the development stage, each questionnaire was critically examined by the Health Technical Advisory Committee, the Joint Committee on Evaluation, the Department's Research Branch, and the Manitoba Bureau of Statistics. Preliminary versions were field tested with individuals in schools. Revisions were made based upon information and advice from these groups.

The questionnaires, mailed to teachers and schools in May, were self-administered. Strict confidentiality was maintained. Results were analyzed for the Province as a whole with no individuals, schools, or school divisions being identified. The analysis has been reported in terms of timetabling format within schools as identified by principals and teachers. Some schools timetable Health as a separate subject, some integrate Health topic areas within other subjects while other schools employ a combination of both timetabling Health and integrating it within other subjects. The analysis within this report has been presented in terms of these 3 timetabling formats.

Grade 3 to 6 Survey Results

Data from the teacher questionnaires complement the student assessment data. On the basis of the data presented, 58% timetable Health as a separate subject, 14% do not timetable Health as a separate subject, but teach certain aspects of the Health program within other subjects, and 29% both timetable Health specifically and also integrate certain content areas within other subjects.

Content Areas Integrated In Other Subjects

The Health program was categorized into 7 content areas for the purpose of the Health Assessment. Each content area was briefly defined for the questionnaire respondents (see page 1). Questions were then asked concerning the subjects within which the content areas were integrated. The 14% of grade 4 to 6 teachers who indicated that they integrate Health within other subjects reported that this integration takes place mainly in Science and Language Arts, while the teachers of grade 3 in this group integrate Health mainly within Social Studies, Language Arts, and Science. Table 6 indicates the content areas and the subjects within which these topics were taught in grades 3, 4, 5, and 6 respectively. For example, 17% of teachers of grade 3 indicate that Dental Health was taught within Science. It is to be noted that a column in this table does not necessarily total 100. The reason for this is that some teachers have reported teaching certain content areas in more than one school subject. The "No Response" option means either that the teacher does not teach the content area at all or that he/she failed to report that the content area was taught. For example, 67% of teachers of grade 3 did not respond to teaching Dental Health.

Table 6

Percent of Schools That Teach Health Content Areas In Other School Subjects
(Schools That Integrate Health Within Other Subjects)

Subjects	Content areas						
	Dental Health	Safety	Mental Well-Being	Nutrition	Environmental Health	Physical Well-Being	Interpersonal Relationships
Grade 3							
All subjects	-	-	4%	-	-	4%	4%
Physical Ed.	-	17%	4	-	-	29	-
Science	17%	13	4	42%	33%	17	4
Language Arts	4	13	21	21	8	8	13
Social Studies	8	29	33	17	25	4	33
Music/Art	4	-	-	8	-	-	-
Mathematics	-	-	-	4	-	-	-
Guidance	-	-	4	-	-	-	8
No Response	67	42	46	38	50	50	46
Grade 4							
All subjects	5%	10%	10%	5%	5%	10%	15%
Physical Ed.	-	10	5	10	-	30	5
Science	25	15	5	50	60	35	10
Language Arts	5	20	40	15	5	10	30
Social Studies	-	15	5	10	15	5	20
Music/Art	5	-	-	-	-	-	-
Mathematics	-	-	5	10	-	-	-
Guidance	-	-	-	-	-	-	-
No Response	65	50	45	30	30	40	35
Grade 5							
All subjects	-	5%	-	-	-	11%	16%
Physical Ed.	-	11	-	-	-	37	-
Science	32%	37	11%	63%	53%	21	-
Language Arts	5	11	32	5	-	-	26
Social Studies	-	-	5	-	16	-	16
Music/Art	-	-	-	-	-	-	-
Math	-	-	-	-	-	-	-
Guidance	-	-	11	-	-	5	11
No Response	63	42	42	32	37	32	32
Grade 6							
All subjects	5%	5%	5%	5%	5%	5%	11
Physical Ed.	-	5	5	-	-	42	-
Science	42	42	16	68	53	37	16
Language Arts	11	26	37	11	21	21	37
Social Studies	-	-	5	-	5	-	11
Music/Art	-	-	-	-	-	-	11
Mathematics	-	-	-	-	-	-	-
Guidance	-	-	-	-	-	-	-
No Response	53	42	47	26	42	26	42

The median number of hours of instruction per year for each content area at each of the grade levels, 3, 4, 5, and 6, is indicated in Table 7 for those schools that do not teach Health as a separate subject but do integrate content areas within other subjects. For example, the median number of hours of instruction per year in Dental Health for grade 3 is 5.5. The number of replies is low. There are 3 reasons for this: few teachers are in the category of not timetabling Health; the question at hand which dealt with hours of instruction per year was misinterpreted by some teachers; and teachers do not necessarily teach every topic area and, therefore, responded only to those areas which they taught.

Table 7

Median Number of Hours of Instruction Per Year in Content Areas Taught Within Other Subjects for Each Grade
(Schools that Integrate Health in Other Subjects)

	Content areas						
Grade	Dental Health	Safety	Mental Well-Being	Nutrition	Environmental Health	Physical Well-Being	Interpersonal Relationships
3	5.5 hr. (8)	9.5 hr. (10)	5.0 hr. (8)	10.0 hr. (10)	5.0 hr. (6)	7.5 hr. (8)	5.0 hr. (9)
4	3.0 (9)	5.0 (11)	10.0 (12)	7.0 (15)	9.0 (13)	5.0 (13)	10.0 (13)
5	2.0 (4)	2.0 (5)	2.0 (5)	5.0 (8)	5.0 (7)	7.5 (8)	6.0 (7)
6	2.0 (9)	5.0 (10)	4.0 (8)	10.0 (12)	8.0 (9)	13.5 (12)	4.0 (11)

Note. Number in parentheses indicates number of teachers responding

Twenty-nine percent of the teachers reported that they timetable Health as a separate subject and also integrate it within other subjects. Table 8 indicates the content areas and the subjects within which they are integrated in grades 3, 4, 5, and 6 respectively. For example, 9% of the grade 3 teachers indicated that Dental Health was taught in Science. Note that a column in this table does not necessarily total 100. The reason for this is that some teachers have reported teaching certain content areas in more than 1 school subject. The "No Response" option means either that the teacher does not teach the content area at all or that he/she failed to report that the content area was taught.

The median number of hours of instruction per year for each content area, taught within other school subjects is indicated for each of the grades levels, 3, 4, 5, and 6, in Table 9 for those schools that both timetable Health as a separate subject and also integrate content areas within other subjects. For example, the median number of hours of instruction per year for Dental Health in grade 3 is 6.0.

Table 8

Percent of Schools That Integrate Health Content Areas Within Other Subjects
(Schools That Both Timetable and Integrate Health)

Subjects	Content areas						
	Dental Health	Safety	Mental Well-Being	Nutrition	Environmental Health	Physical Well-Being	Interpersonal Relationships
Grade 3							
All Subjects	2%	5%	5%	2%	2%	2%	9%
Physical Ed.	-	9	-	5	-	45	5
Science	9	14	2	28	38	15	2
Language Arts	25	31	29	32	8	11	31
Social Studies	5	22	9	8	23	3	28
Music/Art	2	12	5	8	2	5	5
Mathematics	8	-	-	6	-	2	-
Guidance	-	-	3	2	2	3	5
No Response	68	35	55	43	42	35	35
Grade 4							
All Subjects	3%	3%	6%	3%	3%	3%	-
Physical Ed.	-	14	-	6	-	31	3%
Science	17	14	-	31	39	19	8
Language Arts	6	25	22	-	8	8	22
Social Studies	-	11	8	8	25	3	28
Music/Art	6	6	-	-	-	-	-
Mathematics	-	3	-	3	-	-	-
Guidance	-	-	3	-	-	-	-
No Response	69	50	64	64	42	42	44
Grade 5							
All Subjects	3%	6%	9%	3%	3%	3%	17%
Physical Ed.	3	11	6	3	3	51	9
Science	11	20	11	37	49	20	9
Language Arts	11	23	29	14	20	11	23
Social Studies	3	11	26	20	29	6	26
Music/Art	6	3	3	6	-	-	-
Mathematics	3	-	3	-	3	-	-
Guidance	-	-	3	-	-	-	-
No Response	71	49	43	46	20	34	37
Grade 6							
All Subjects	-	3%	6%	-	-	-	16%
Physical Ed.	3%	13	6	9%	-	53%	9
Science	28	31	13	47	75%	22	9
Language Arts	6	13	22	13	16	19	22
Social Studies	3	13	9	9	22	3	22
Music/Art	3	-	-	3	-	-	-
Mathematics	3	-	-	3	3	3	-
Guidance	-	-	3	-	-	-	3
No Response	69	50	50	38	16	28	31

Table 9

Median Number of Hours of Instruction Per Year in Content Areas Taught Within Other Subjects for Each Grade (Schools That Both Timetable Health and Also Integrate It Within Other School Subjects

Grade	Content areas						
	Dental Health	Safety	Mental Well-Being	Nutrition	Environmental Health	Physical Well-Being	Interpersonal Relationships
3	6.0 hr. (29)	5.0 hr. (36)	7.0 hr. (25)	9.0 hr. (30)	6.0 hr. (25)	6.0 hr. (31)	5.0 hr. (28)
4	3.5 (12)	5.0 (9)	5.0 (6)	8.5 (12)	6.0 (12)	8.5 (12)	4.0 (9)
5	2.0 (12)	7.5 (12)	8.0 (10)	5.0 (13)	5.0 (15)	10.0 (17)	10.0 (9)
6	2.0 (11)	4.0 (13)	5.5 (12)	8.0 (13)	7.0 (17)	12.0 (15)	8.0 (12)

Note. Number in parentheses indicates number of teachers responding

Time Spent in Teaching Health by Teachers Who Timetable Health as a Separate Subject

Fifty-eight percent of the teachers in grades 3, 4, 5, and 6 timetable Health as a separate subject. Approximately three-quarters of these teachers are on a 5 or 6 day timetable cycle. Table 10 indicates the number of minutes per cycle that Health is timetabled by these teachers. For example, 4% of grade 3 teachers teach Health less than 20 minutes per cycle. The sum of row percents does not equal 100 because calculations were made only for those teachers who were on a 5 or 6 day timetable cycle.

Table 10

Percent of Teachers in Each Time Interval in Minutes Per Cycle for Each Grade Where Health is Timetabled as a Separate Subject

Grade	Minutes per cycle				
	Less Than 20	20-39	40-59	60-79	80-99
3	4%	21%	38%	6%	6%
4	6	10	41	17	10
5	8	8	31	14	9
6	9	7	31	14	9

Approximately three-quarters of the teachers who both timetable Health as a separate subject and also integrate content areas within other subjects are on a 5 or 6 day timetable cycle. Table 11 indicates the number of minutes per cycle that Health is timetabled as a separate subject by these teachers. For example, 6% of grade 3 teachers schedule Health for less than 20 minutes per cycle.

Table 11

Percent of Teachers in Each Time Interval in Minutes Per Cycle for Each Grade Level Where Health Instruction is Timetabled
(Teachers Who Both Timetable Health and Integrate It Within Other Subjects)

	Minutes per cycle				
Grade	Less Than 20	20-39	40-59	60-79	80-99
3	6%	23%	29%	9%	5%
4	11	25	17	11	14
5	34	23	9	9	-
6	9	25	19	-	25

Percent of Health Time Devoted to Each Content Area

Teachers who timetable Health as a separate subject have reported on the scheduled time spent in each Health content area as a proportion of total time scheduled for Health teaching. Table 12 indicates the percent of teachers who are in each time interval in the separate content areas for each grade, 3, 4, 5, and 6. For example, 6% of schools reported that they spend no time (0%) teaching Dental Health in grade 3.

Schools that both timetable Health instruction and also integrate it within other subjects have reported on the scheduled time spent in each Health content area as a proportion of total time scheduled for Health teaching. Table 13 indicates the percent of schools that are in each time interval in the separate content area for each grade, 3, 4, 5, and 6. For example, 26% of the schools reported that they spend no time (0%) teaching Dental Health in grade 3.

Health Topics Taught By Other Teachers

Grade 3 to 6 teachers reported on Health content areas that were taught to their own students by other teachers in the schools. They reported that most of such Health instruction occurred in Physical Education and Science. Table 14 depicts the percentage of teachers who reported that Health instruction occurred with teachers in Physical Education and Science. For example, 4% of teachers that timetable Health reported that the content area of Safety was taught to their students by Physical Education teachers. This table demonstrates that instruction by other teachers occurred infrequently. It should be borne in mind that the identified Health teachers often teach all subjects in their own class; this circumstance would preclude "other" teachers from teaching any content areas to their own students.

Table 12

Percent of Teachers Reporting the Proportion of Health Teaching Time Devoted to Each Content Area (Schools That Timetable Health)

Proportion of Health Teaching Time (as %)	Content areas						
	Dental Health	Safety	Mental Well-Being	Nutrition	Environmental Health	Physical Well-Being	Interpersonal Relationships
Grade 3							
0	6%	8%	23%	4%	38%	11%	39%
1-5	3	4	8	-	13	1	13
6-10	32	30	34	13	39	23	28
11-15	17	11	14	7	7	13	8
16-20	27	28	17	39	3	28	7
21-25	10	13	3	13	-	7	1
26-30	3	4	-	13	-	10	3
31-35	-	1	-	-	-	1	-
More than 35	3	-	1	11	-	6	-
Grade 4							
0	13%	13%	28%	16%	49%	15%	44%
1-5	12	8	13	3	18	1	15
6-10	33	23	33	14	26	13	24
11-15	9	23	13	13	4	14	2
16-20	22	24	10	23	1	12	9
21-25	10	9	6	13	1	11	5
26-30	-	1	1	10	-	5	-
31-35	-	-	-	-	-	-	-
More than 35	2	1	-	8	-	29	-
Grade 5							
0	26%	7%	21%	22%	38%	3%	28%
1-5	11	8	7	7	13	1	16
6-10	38	38	34	21	37	9	39
11-15	6	13	8	11	5	7	6
16-20	16	21	25	18	6	21	13
21-25	-	7	6	7	1	8	-
26-30	1	6	2	9	-	13	2
31-35	1	-	2	1	1	5	-
More than 35	-	-	-	3	-	33	-
Grade 6							
0	39%	16%	18%	8%	44%	11%	28%
1-5	22	8	18	3	18	3	14
6-10	28	41	27	11	28	9	30
11-15	1	10	10	8	1	11	8
16-20	7	19	27	33	6	25	14
21-25	2	5	5	10	1	9	5
26-30	1	1	6	9	1	13	2
31-35	-	-	1	5	-	6	1
More than 35	-	-	3	13	-	11	1

Table 13

Percentage of Teachers Reporting the Proportion of Health Teaching Time Devoted to Each Content Area
(Schools That Both Timetable Health and Also Integrate It Within Other Subjects)

Proportion of Health Teaching Time (%)	Content areas						
	Dental Health	Safety	Mental Well-Being	Nutrition	Environmental Health	Physical Well-Being	Interpersonal Relationships
				Grade 3			
0	26%	29%	37%	26%	51%	29%	38%
1-5	9	5	17	2	25	12	14
6-10	20	25	23	8	15	22	31
11-15	18	9	5	17	5	8	5
16-20	12	15	12	17	5	11	12
21-25	8	8	-	9	-	6	-
26-30	5	5	3	11	-	6	-
31-35	2	3	-	2	-	3	-
More than 35	-	2	3	9	-	3	-
				Grade 4			
0	11%	11%	14%	17%	31%	14%	28%
1-5	22	8	17	11	22	19	22
6-10	47	33	39	14	36	11	36
11-15	6	25	14	11	3	11	6
16-20	8	11	8	22	6	17	6
21-25	3	8	6	6	-	6	3
26-30	3	3	3	8	3	-	3
31-35	-	-	-	3	-	3	-
More than 35	-	-	3	8	-	19	3
				Grade 5			
0	20%	23%	26%	20%	26%	7%	23%
1-5	26	17	14	11	26	6	17
6-10	23	17	49	23	40	17	20
11-15	17	14	6	11	3	6	-
16-20	11	26	6	14	6	26	17
21-25	3	3	3	11	-	9	3
26-30	-	-	6	3	-	6	3
31-35	-	-	-	3	-	-	3
More than 35	-	-	3	3	-	14	-
				Grade 6			
0	31	25	28	25	41	28	34
1-5	22	16	13	-	9	3	9
6-10	25	22	41	13	44	22	31
11-15	9	9	3	9	6	-	3
16-20	9	13	19	34	-	22	19
21-25	3	-	-	3	-	6	3
26-30	-	13	-	9	-	6	-
31-35	-	-	-	-	-	3	-
More than 35	-	3	-	6	-	9	-

Table 14

Percentage of Teachers Who Report That Other Teachers Teach Health Content Areas

Teachers	Content areas						
	Dental Health	Safety	Mental Well-Being	Nutrition	Environmental Health	Physical Well-Being	Interpersonal Relationships
Teachers who timetable Health							
Physical Ed.	-	4%	-	1%	-	9%	2%
Science	-	-	-	1	1%	1	-
Teachers who integrate Health							
Physical Ed.	-	9%	6%	2%	1%	15%	4%
Science	1%	-	1	2	1	10	2
Teachers who both timetable and integrate Health							
Physical Ed.	1%	7%	6%	-	1%	24%	5%
Science	-	2	-	1%	2	-	1

Health Resources

Teachers reported on the Health resource materials that were used in their classrooms and stated whether or not these materials were suitable. Table 15 presents information on classrooms that timetable Health as a separate subject, integrate Health content areas within other subjects, and both timetable Health and integrate it within other subjects. For example, 55% of teachers who timetable Health as a separate subject use kits for some or all units; 52% of this same group of teachers find these kits suitable; and 2% find them unsuitable. It is apparent from these statistics that not all who responded to using the resources reported on their suitability.

Certain agencies and organizations assist schools in their Health instructional program by providing both human and material resources. Table 16 depicts the percentage of schools that have utilized the services of from 0 to 5 organizations in the 1981-82 school year. For example, 35% of teachers who timetable Health as a separate subject did not use the resources of any agencies.

Tables 17, 18, and 19 indicate the percentage of teachers who received specific assistance from agencies or organizations in the 1981-82 school year. Table 17 indicates the assistance received by teachers who timetable Health; Table 18 indicates the assistance received by teachers who integrate Health within other subjects; and Table 19 indicates the assistance given to teachers who both timetable and integrate Health. For example, in Table 17 1% of teachers who timetable Health received "materials" assistance from the Alcoholism Foundation of Manitoba and 1% of these schools received "speaker" assistance. These percentages are not mutually exclusive; those schools that received the "speaker" assistance may also have received "materials" assistance.

Table 15

Percentage of Teachers in Grade 3 to 6 Who Use Listed Health Resources and Reported on Their Suitability

Resources	Using resources	Suitability of resources	
		Suitable	Not Suitable
Teachers who timetable Health (n=339)			
Kits for some or all units	55%	52%	2%
Textbooks	78	58	15
Lab Materials	12	9	2
Pamphlets	68	62	3
Films	75	69	3
Curriculum Guides	69	54	9
Teachers who integrate Health (n=82)			
Kits for some or all units	57	54	2
Textbooks	52	41	9
Lab Materials	16	13	2
Pamphlets	65	60	1
Films	78	73	1
Curriculum Guides	39	38	1
Teachers who both timetable and integrate Health (n=168)			
Kits for some or all units	58	55	-
Textbooks	67	51	11
Lab Materials	15	13	2
Pamphlets	73	67	2
Films	88	81	2
Curriculum Guides	67	51	11

Table 16

Percentage of Schools Assisted by Agencies

School timetabling format for Health	Number of agencies					
	0	1	2	3	4	5
Timetabled classes	35%	30%	21%	9%	4%	1%
Integrated classes	28	29	21	17	5	-
Timetabled and integrated	24	24	27	14	5	7

Table 17

Agencies/Organizations That Have Been Most Useful in Assisting Teachers of Grade 3 to 6 Classes in Their Health Programs in the 1981-82 School Year (Teachers Who Timetable Health as a Separate Subject)

Agency/Organization	Type of assistance and percentage of occurrences			
	Materials	Consultant	Speaker	Other
Alcoholism Foundation of Manitoba	1	-	1	-
Block Parent	-	-	-	-
Canadian Cancer Society	4	2	1	-
Canadian Red Cross Society	5	1	1	-
Education Department - Manitoba	3	-	-	-
Fire Department	2	1	2	-
Health and Welfare - Canada	2	1	1	-
Health Department - Manitoba				
Community Health Services Directorate	3	1	3	-
Dental Health Services	18	9	21	-
Home Economics Directorate	5	3	1	-
Public Health Nursing Directorate	9	6	9	-
Public Health (General)	7	5	7	-
Manitoba Heart Foundation	4	1	1	
Manitoba Milk Producers' Marketing Board	10	3	1	1
Manitoba Lung Association	1	-	-	-
Manitoba Safety Council	1	1	1	-
National Film Board	-	-	-	-
Physician	-	-	-	-
Planned Parenthood (Manitoba) Limited	-	-	-	-
Police Department or R.C.M.P.	7	2	9	-
St. John Ambulance	1	-	-	-
School Division	3	1	1	-
School Guidance Counsellor	-	-	-	-
Social Worker	-	-	-	-

Table 18

Agencies/Organizations That Have Been Most Useful in Assisting Teachers of Grade 3 to 6 Classes in Their Health Programs in the 1981-82 School Year (Teachers Who Integrate Health Within Other Subjects)

Agency/Organization	Type of assistance and percentage of occurrences			
	Materials	Consultant	Speaker	Other
Alcoholism Foundation of Manitoba	1	-	-	-
Block Parent	-	-	-	-
Canadian Cancer Society	4	1	1	-
Canadian Red Cross Society	9	4	7	1
Education Department - Manitoba	9	2	-	2
Fire Department	2	1	4	-
Health and Welfare - Canada	1	-	-	-
Health Department - Manitoba				
Community Health Services Directorate	4	-	4	-
Dental Health Services	16	6	22	1
Home Economics Directorate	4	1	2	1
Public Health Nursing Directorate	9	7	10	4
Public Health (General)	12	1	4	2
Manitoba Heart Foundation	1	-	-	1
Manitoba Milk Producers' Marketing Board	11	5	1	4
Manitoba Lung Association	-	-	-	-
Manitoba Safety Council	2	2	4	-
National Film Board	2	-	-	4
Physician	-	1	-	-
Planned Parenthood (Manitoba) Limited	-	-	1	-
Police Department or R.C.M.P.	10	-	13	1
St. John Ambulance	-	-	-	-
School Division	5	4	1	1
School Guidance Counsellor	-	-	-	-
Social Worker	-	-	-	1

Table 19

Agencies/Organizations That Have Been Most Useful in Assisting Teachers of Grade 3 to 6 Classes in Their Health Programs in the 1981-82 School Year (Schools That Both Timetable Health and Integrate It Within Other Subjects)

Agency/Organization	Type of assistance and percentage of occurrences			
	Materials	Consultant	Speaker	Other
Alcoholism Foundation of Manitoba	1	-	-	-
Block Parent	1	-	1	-
Canadian Cancer Society	5	1	2	-
Canadian Red Cross Society	8	1	3	-
Education Department - Manitoba	7	1	1	-
Fire Department	2	3	4	1
Health and Welfare - Canada	1	-	-	-
Health Department - Manitoba				
Community Health Services Directorate	5	4	4	-
Dental Health Services	23	12	28	1
Home Economics Directorate	8	4	5	1
Public Health Nursing Directorate	14	12	11	1
Public Health (General)	12	6	6	-
Manitoba Heart Foundation	4	1	1	-
Manitoba Milk Producers' Marketing Board	12	1	3	-
Manitoba Lung Association	2	-	-	-
Manitoba Safety Council	3	1	3	-
National Film Board	-	-	-	-
Physician	-	1	1	-
Planned Parenthood (Manitoba) Limited	-	-	-	-
Police Department or R.C.M.P.	9	2	12	-
St. John Ambulance	1	2	2	-
School Division	3	2	1	-
School Guidance Counsellor	1	-	1	-
Social Worker	-	-	-	-

Table 20

Grade 3 to 6 teachers who reported on organizations and agencies that were involved in their classrooms in 1981-82 also listed other agencies that they felt should be involved in their Health program. Table 20 depicts the percentage of teachers who listed other agencies that they felt should be involved.

Percentage of Grade 3 to 6 Teachers Who Suggest Other Agencies That Should Be Involved in their Health Programs

Agency/Organization that should be involved	School timetabling format for Health		
	Timetabled	Integrated	Timetabled & Integrated
Alcoholism Foundation of Manitoba	1%	-	1%
Block Parents	1	-	1
Canadian Cancer Society	1	-	1
Canadian Red Cross Society	1	1%	1
Education Department - Manitoba	1	1	2
Family Life Organizations	1	-	-
Fire Department	2	-	2
Health and Welfare - Canada	1	-	1
Health Department - Manitoba			
Community Health Services Directorate	2	1	4
Dental Health Services	4	4	2
Home Economics Directorate	4	2	1
Public Health (General)	1	2	2
Public Health Nursing Directorate	5	7	4
Manitoba Heart Foundation	1	1	-
Manitoba Milk Producers' Marketing Board	1	-	-
Manitoba Lung Association	-	-	1
Manitoba Safety Council	1	-	-
National Film Board	-	-	-
Physician	3	4	4
Planned Parenthood (Manitoba) Ltd.	-	-	-
Police Department or R.C.M.P.	3	4	4
St. John Ambulance	1	-	1
School Division	-	-	-
School Guidance Counsellor	1	1	1
Social Worker	1	4	2

School Budgets for Health

Grade 3 to 6 classroom teachers reported on the number of dollars spent on Health materials for the last 2 school years. Table 21 depicts respectively the Health budgets for classrooms that timetable Health, classrooms that integrate Health, and classrooms that both timetable and integrate Health instruction. For example, 88% of classrooms that timetable Health as a separate subject spent less than $25.00 for Health materials in the 1981-82 school year.

Table 21

Percentage of Teachers Who Report on Amount of Money Spent for Classroom Health Materials

Year	Number of Dollars					
	Less than 25	25-49	50-74	75-99	100-200	Over 200
	Schools that timetable Health					
1981-82	88%	6%	1%	3%	1%	2%
1980-81	94	4	1	1	1	0
	Schools that integrate Health					
1981-82	95%	4%	-	-	1%	-
1980-81	96	1	2%	-	1	-
	Schools that both timetable and integrate Health					
1981-82	88%	8%	1%	2%	1%	1%
1980-81	93	5	1	2	-	-

Student Evaluation

Teachers of Grade 3 to 6 classes reported whether or not they formally evaluated and reported on student progress in Health education, either as a separate subject or as separate units within other subjects. Table 22 depicts the percentage of teachers who stated whether or not they evaluate their students. Row percents do not equal 100% because some respondents either did not answer this question or answered it incorrectly.

Table 22

Percentage of Teachers Who Stated Whether or not They Evaluate Students

Classroom timetabling format for Health	Yes	No
Timetabled classrooms	77%	17%
Integrated classrooms	33	51
Timetabled and integrated	52	43

Those teachers who do evaluate their students reported on the specific evaluation methods used. Table 23 depicts the percentage of this group of teachers who ranked the individual evaluation methods used in their classrooms. For example, 36% of the teachers who evaluate in classrooms where Health is timetabled place the greatest evaluation emphasis on tests. Note that the figures in this Table refer to percentages of teachers who evaluate and not to percentages of all teachers in this study. The sum of row percentages do not equal 100 because some of the teachers who evaluate their students did not rank evaluation methods.

Table 23

Percentage of Those Teachers Who Formally Evaluate Their Students Who Have Ranked Evaluation Methods According to Emphasis Placed on Each Method

	Rank					
Evaluation Method	1	2	3	4	5	6
Teachers who timetable Health n=260						
Tests	36%	22%	8%	9%	12%	-
Projects and assignments	30	33	10	9	4	1
Work habits	3	14	28	18	9	-
Health habits	9	13	14	13	16	-
General attitude in Health class	13	9	22	14	15	-
Teachers who integrate Health within other subjects n=26						
Tests	23%	15%	-	15%	31%	
Projects and assignments	19	35	19%	12	-	
Work habits	12	23	31	15	4	
Health habits	15	12	8	19	15	
General attitude in Health class	42	15	23	4	-	
Teachers who both timetable and integrate Health n=88						
Tests	14%	16%	8%	6%	33%	
Projects and assignments	27	19	13	20	7	
Work habits	1	19	30	20	7	
Health habits	19	19	19	13	11	
General attitude in Health class	31	11	16	16	8	

Use of Health Textual Resources

Teachers of Grade 3 to 6 reported on their use of texts. Table 24 depicts the percentage of teachers who use Health texts or textual resources in their Health programs. For example, 18% of teachers who timetable Health in grade 3 classes use Health textual resources.

Table 24

Percentage of Teachers of Grade 3 to 6 Who Reported on Textual Usage

Class timetabling format for Health	Grades			
	3	4	5	6
Timetabled classes	18%	76%	76%	76%
Integrated classes	13	45	37	58
Timetabled & integrated classes	14	75	71	81

Teachers reported on types or names of textual resources used in their classrooms. Table 25 presents the names of these texts or resources and the percentage of teachers at each grade level who use them.

Table 25

Percentage of Teachers at Each Grade Level Who Use Specific Textual Resources

Name of resource	Grade			
	3	4	5	6
Curriculum Guide	3%	-	1%	-
Health Science 3 (Doubleday, 1968)	6	-	1	-
Health and Growth (Scott Foresman, 1981)	-	-	-	-
Hole in the Fence (Health & Welfare, Canada)	1	1%	-	-
Health for All 3 (Gage, 1965)	3	-	1	-
Health Science 4 (Doubleday, 1968)	3	60	2	2%
Stem Science 4 (Addison Wesley, 1977)	-	5	-	-
You and Your Health 4 (Scott Foresman, 1981)	1	4	-	-
Health Science 5 (Doubleday, 1968)	-	-	62	6
Health Science 6 (Doubleday, 1968)	-	1	1	64
Stem Science 6 (Addison Wesley, 1977)	-	1	-	1
Health 6 (Laidlaw, 1966)	-	-	1	1

Teacher Preparation Topics

Teachers of Grade 3 to 6 classes ranked teacher preparation topics according to the importance they attached to them. Table 26 depicts the percentage of grades 3 - 6 teachers who ranked each teacher preparation topic. For example, 12% of the teachers ranked "Techniques Used in Teaching Health" as first.

Table 26

Percentage of Grade 3 to 6 Teachers Who Ranked Specific Teacher Preparation Topics

Teacher Preparation Topic	Rank								
	1	2	3	4	5	6	7	8	No Response
Techniques Used In Teaching Health	12%	15%	15%	18%	13%	8%	3%	1%	15%
Health Education Content	32	13	17	12	7	4	1	-	12
Psychology of Learning	7	4	5	8	10	13	14	15	23
Testing and Evaluating in Health	-	3	5	7	13	12	19	20	21
Survey of Available Curriculum Materials	12	16	15	10	8	8	8	7	17
Lesson Planning	18	15	11	10	11	10	7	4	15
Preparation of Health Materials	10	24	19	16	9	6	3	1	11
Practice in Teaching Health	3	4	4	5	9	13	17	20	23

Concerns Expressed by Teachers Through Their Comments

Fifty-one percent of the teachers of Grade 3 to 6 classes voluntarily made personal comments on the questionnaires. These comments have been categorized and summarized and are reported below with typical comments that reflect the teachers' concerns for the Health programs.

New curriculum needed. There was a strong demand expressed for a new curriculum in all of grades 3 - 6. Some comments were:

> In serious need of a new curriculum.
>
> Waiting for the new curriculum to arrive.
>
> A Health curriculum is long overdue.
>
> A revised curriculum for the Province would help in the yearly planning.
>
> It's really past time for a new curriculum. Something along the lines of the Science curriculum would be appreciated.
>
> The new curriculum (what I've seen of it is excellent).
>
> I think the guide needs revising badly. Give us a break and do a job like the Math and Science guides. They are excellent.

Materials and resources. Teachers complained about the lack of adequate resources and expressed a keen desire for assistance in this regard. Typical comments were:

> I would appreciate a greater availability of resource materials.

> We need money spent on this area in our Division.
>
> The textbooks now available for students are quite boring.
>
> We have no student textbooks.
>
> Would like to see a suitable Health text for grade 3 as a source of reference.
>
> More funds should be allocated for texts, materials, films, and slides.
>
> More information required on drugs, alcohol, and smoking.

Time constraints. Many teachers felt that Health was a very important subject, but that it is generally neglected in the schools due to priorities given to other subjects. Some comments were:

> Health is a worthwhile subject, but with daily Physical Education, increased French, and more Music, Health is the first subject cut.
>
> Unfortunately, our timetable does not allow for regular Health classes, causing Health to be taught incidentally.
>
> I would like to have the time to do a lot more. Unfortunately, there are not enough hours in the day to do all the things demanded of us in each subject area.
>
> Insufficient time and materials available to teach this subject of vital importance.

Lack of interest and credibility. There was an indication that a few teachers felt Health was a low priority subject. Typical comments were:

> It is difficult to spend time on a frill such as this, with slower children.
>
> I wasn't aware there was a Health program.

Integration with other subjects. Some teachers feel that Health should be integrated within other subjects either because there is no time to teach it otherwise or because it is better to teach it within other subjects. Some typical comments were:

> I personally feel that Health education should be integrated and not taught as a separate subject.
>
> Health is probably best taught as the situation arises, not as a separate subject.
>
> Health is mostly integrated with Science. Not enough time is spent on Health.
>
> I believe integration is the best way, but I need some more definite Health goals to incorporate it into the integrated teaching method.
>
> I feel teaching topics relating to Health is an ongoing process. Topics should be taught when appropriate and meaningful to the student.

> Health class time is very limited so I feel that it must be integrated in order to cover a broad range of materials in enough depth to make a significant impact. It's very time consuming to put together a Health course. Material is very scattered and it takes a great deal of planning and organizational time. I feel many teachers neglect this area for the above reasons.
>
> The subject is totally integrated. I have no formal time to teach the concepts.
>
> There are not enough hours in the school day or weeks in the school year to add a separate Health program to the required subjects.
>
> I find that if Health is taught in other subject areas, the students seem to enjoy it more.

Need for improvement. Some teachers stated that there was a real need to improve the Health program, both in terms of physical resources and time. Some comments were:

> The total Health program requires revision.
>
> There is a lack of continuity from grade level to grade level.
>
> There is very little help available that is contemporary - for today's student.
>
> The biggest problem in teaching Health is to break down the attitude that 'Health is not important'.
>
> Health costs should make it obvious that the emphasis must be on prevention.
>
> Health programs to date seriously neglect the social and emotional development of the child.
>
> I think our young people need to become more aware and more responsible for their living space.
>
> I would like to see Health timetabled as a separate subject.
>
> The program needs to be more directive and outlined.
>
> The grade 6 course should be going into guidance in social skills and preventive education in drug abuse. It is not uncommon for students at this age to be involved in drugs and alcohol. Drug and alcohol abuse education is a must. The 'hot' topic of 'sex education' needs reviewing even though administrators generally oppose it due to its political implications and religious backlash.

General satisfaction with the program. Several teachers have worthwhile Health programs and have expressed general satisfaction with their efforts. Some comments were:

> Films and accompanying discussions have seemed to bring most worthwhile results.
>
> I like the text which I am using. I know it is outdated. It covers most areas. The others are covered by resource materials which are gathered from a variety of places.

> Knowing that the grade fives would be tested this year, I did a thorough re-evaluation of all that they could recall from past years as well as many new topics. I found that the greater majority were able to do very well in the test conducted in February.
>
> It is an excellent course for an exciting and informative discussion.
>
> I feel very secure in teaching Health, mostly because of the wide range of materials available from different resources.
>
> Students are very interested in the subject because of all the projects and open discussions we have.

Special topics. Some teachers discussed special programs that they have implemented. Comments were:

> Family life program presents many opportunities to discuss family relationships.
>
> Practical experiences are a major emphasis in my program; e.g. actual cooking and preparation of food, visiting a grocery store, designing a well-balanced diet.
>
> My children have greatly enjoyed and learned from the Red Cross courses - Babysitter course; Safety is No Accident course; Winter Safety.
>
> Nursing students have a 12 hour session on drugs and alcohol. School nurse assists in family life.
>
> Nutrition is taught along with a Food Experience lesson one period per cycle. This is done school-wide.

Administrator Survey Results

Principals of schools that had students in all the grades 7, 8, and 9 were surveyed. The data from these questionnaires complement the grade 10 student assessment data. Although the students were assessed in grade 10, the Health program upon which the assessment was based was the grade 7, 8, and 9 Health program. The schools included in the survey can be grouped in relation to grade 7, 8, and 9 student population. There are 4 approximately equal groups of schools:

26% of the schools have less than 25 students in grades 7, 8, and 9
26% have 25 to 74 students in these grades
25% have 75 to 199 students in these grades
23% of the schools have 200 or more students in grades 7, 8, and 9.

Seventy percent of the schools in the study have from 1 to 5 teachers who teach some aspects of the Health program. Specifically, 23% have 1 teacher, 24% have 2 teachers, and 23% have 3 to 5 teachers who teach some aspects of the Health program. Eleven percent of the schools reported that 6 or more teachers teach some Health and 19% did not indicate that they have teachers who teach aspects of the Health program.

On the basis of the data presented by administrators in schools where at least some Health is taught, 34% indicate that they timetable Health as a separate subject, 42% indicate that they do not timetable Health as a distinct subject, but that their teachers do integrate some Health content areas within other subjects and 25% indicate that they both timetable Health as a subject and integrate Health content areas within other subjects.

Content Areas Integrated In Other Subjects

The Health program was categorized into 7 content areas for the purposes of the Health Assessment. Each content area was briefly defined for the questionnaire respondents (see page 1). Questions were then asked concerning the subjects within which the content areas were integrated. The 42% of school administrators who indicated that their teachers integrate Health within other school subjects reported that this integration takes place mainly in Science, Physical Education, and Guidance. Table 27 indicates the content areas and the subjects within which these topics were taught in grades 7, 8, and 9 respectively. For example, 7% of the schools indicated that Dental Health was taught in Home Economics in grade 7. It is noted that each column in this table exceeds 100%. The reason for this is that schools have reported teaching certain content areas in more than one school subject. The "No Response" option means either that the school does not teach that content area at all or that it failed to report that it taught the area.

The median number of hours of instruction per year for each content area at each of the grade levels, 7, 8, and 9, is indicated in Table 28 for those schools that do not teach Health as a separate subject but do integrate content areas within other subjects. For example, the median number of hours of instruction per year in Dental Health for grade 7 is 3.0.

Table 27

Percent of Schools That Teach Health Content Areas In Other School Subjects
(Schools That Integrate Health Within Other Subjects)

Subjects	Content areas						
	Dental Health	Safety	Mental Well-Being	Nutrition	Environmental Health	Physical Well-Being	Interpersonal Relationships
				Grade 7			
Home Economics	7%	10%	5%	30%	3%	4%	7%
Physical Ed.	6	32	11	24	11	58	10
Guidance	7	9	26	7	5	12	27
Science	21	27	9	30	44	12	9
Language Arts	3	-	4	-	-	1	4
Industrial Arts	4	11	-	-	1	-	1
Social Studies	-	3	3	1	9	3	7
Other Subjects	-	5	9	1	5	4	12
NO RESPONSE	61	35	47	25	40	27	37
				Grade 8			
Home Economics	7%	6%	5%	28%	2%	4%	12%
Physical Ed.	7	30	12	22	11	56	10
Guidance	4	7	25	5	5	10	25
Science	21	25	9	30	46	20	10
Language Arts	1	-	4	1	-	1	5
Industrial Arts	-	12	-	-	1	-	1
Social Studies	-	2	2	1	11	2	7
Other Subjects	4	4	9	2	4	4	9
NO RESPONSE	64	40	48	27	40	28	37
				Grade 9			
Home Economics	6%	5%	6%	27%	2%	4%	14%
Physical Ed.	6	33	14	25	12	56	10
Guidance	4	6	25	2	4	6	23
Science	17	26	11	23	47	19	10
Language Arts	1	10	2	1	-	-	6
Industrial Arts	-	-	-	-	1	-	1
Social Studies	-	-	2	-	11	-	6
Other Subjects	4	4	9	2	2	4	9
NO RESPONSE	69	42	48	36	37	32	36

Table 28

Median Number of Hours of Instruction Per Year in Content Areas Taught Within Other Subjects for Each Grade
(Schools That Integrate Health in Other Subjects)

Grade	Content areas						
	Dental Health	Safety	Mental Well-Being	Nutrition	Environmental Health	Physical Well-Being	Interpersonal Relationships
7	3.0 hr.	5.0 hr.	5.0 hr.	8.0 hr.	5.0 hr.	8.0 hr.	7.0 hr.
8	3.0	6.0	5.0	8.5	5.0	8.0	8.0
9	3.0	5.0	5.0	3.0	5.0	8.0	6.0

Twenty-five percent of the school administrators reported that Health is both timetabled as a separate subject and also integrated within other school subjects. Table 29 indicates the content areas and the subjects within which they are integrated in grades 7, 8, and 9 respectively. For example, 4% of the schools indicated that Dental Health was taught in Home Economics.

The median number of hours of instruction per year for each content area taught within other school subjects is indicated for each of the grade levels, 7, 8, and 9, in Table 30 for those schools that both timetable Health as a separate subject and also integrate content areas within other subjects. For example, the median number of hours of instruction per year for Dental Health in grade 7 is 4.0.

Time Spent in Teaching Health in Schools Where Health Is Timetabled as a Separate Subject

Thirty-four percent of schools timetabled Health as a separate subject. Ninety-one percent of these schools are on a 5 or 6 day timetable cycle. Table 31 indicates the number of minutes per cycle that Health is timetabled in these schools. For example, 6% of these schools schedule Health for less than 20 minutes per cycle in grade 7.

The majority of schools that both timetable Health as a separate subject and also integrate content areas within other subjects are on a 5 or 6 day timetable cycle. Table 32 indicates the number of minutes per cycle that Health is timetabled as a separate subject in these schools. For example, 25% of these schools schedule Health for less than 20 minutes per cycle in grade 7.

Percent of Health Time Devoted to Each Content Area

Schools that timetable Health as a separate subject have reported on the scheduled time spent in each Health content area as a proportion of total time scheduled for Health teaching. Table 33 indicates the percent of schools that are in each time interval in the separate content areas for each grade, 7, 8, and 9. For example, 34% of schools reported that they spend no time (0%) teaching Dental Health in grade 7.

Table 29

Percent of Schools That Integrate Health Content Areas Within Other Subjects
(Schools That Both Timetable and Integrate Health)

Subjects	Content Areas						
	Dental Health	Safety	Mental Well-Being	Nutrition	Environmental Health	Physical Well-Being	Interpersonal Relationships
				Grade 7			
Home Economics	4%	10%	4%	31%	4%	10%	8%
Physical Ed.	-	10	8	2	-	46	4
Guidance		2	19	-	2	2	19
Science	10	13	4	23	29	15	-
Language Arts	2	6	6	4	6	-	8
Industrial Arts	-	10	2	-	-	-	-
Social Studies		2	2	4	13	4	6
Other Subjects	-	-	2	-	2	-	2
NO RESPONSE	85	65	63	46	54	40	58
				Grade 8			
Home Economics	4%	10%	4%	35%	6%	10%	10%
Physical Ed.	-	8	8	4	-	44	2
Guidance	-	2	21	23	2	2	19
Science	10	13	2	4	33	13	-
Language Arts	-	4	6	-	2	-	6
Industrial Arts	-	13	2	-	-	-	-
Social Studies	-	2	2	-	8	2	4
Other Subjects	-	-	2	-	-	-	2
NO RESPONSE	85	65	63	46	56	44	60
				Grade 9			
Home Economics	6%	10%	2%	13%	6%	10%	10%
Physical Ed.	-	8	10	6	4	44	6
Guidance	2	4	23	2	-	2	19
Science	10	10	4	21	29	8	2
Language Arts	-	4	4	4	2	-	4
Industrial Arts	-	10	2	-	-	-	-
Social Studies	-	2	-	-	6	4	2
Other Subjects	-	-	-	-	-	-	-
NO RESPONSE	83	67	65	52	60	42	60

Table 30

Median Number of Hours of Instruction Per Year in Content Areas Taught Within Other Subjects for Each Grade (Schools That Both Timetable Health and Also Integrate It Within Other School Subjects)

Grade	Content areas						
	Dental Health	Safety	Mental Well-Being	Nutrition	Environmental Health	Physical Well-Being	Interpersonal Relationships
7	4.0 hr.	8.0 hr.	8.0 hr.	8.0 hr.	4.0 hr.	16.0 hr.	10.0 hr.
8	4.0	6.0	8.0	6.0	5.0	10.0	10.0
9	4.0	6.5	10.0	8.0	4.5	12.5	10.0

Table 31

Percent of Schools in Each Time Interval in Minutes Per Cycle for Each Grade Where Health is Timetabled as a Separate Subject

Grade	Minutes per cycle					
	Less Than 20	20-39	40-59	60-79	80-99	More Than 100
7	6%	15%	18%	31%	12%	17%
8	11	17	14	29	14	15
9	25	11	12	23	18	11

Table 32

Percent of Schools in Each Time Interval in Minutes Per Cycle for Each Grade Level Where Health Instruction is Timetabled (Schools That Both Timetable Health and Integrate It Within Other Subjects)

Grade	Minutes per cycle					
	Less Than 20	20-39	40-59	60-79	80-99	More Than 100
7	25%	10%	17%	25%	8%	15%
8	29	10	13	23	8	17
9	35	6	8	17	13	21

Schools that both timetable Health instruction and also integrate it within other subjects have reported on the scheduled time spent in each Health content area as a proportion of total time scheduled for Health teaching. Table 34 indicates the percent of schools that are in each time interval in the separate content areas for each grade, 7, 8, and 9. For example, 40% of the schools reported that they spend no time (0%) teaching Dental Health in grade 7.

Table 33

Percentage of Schools Reporting the Proportion of Health Teaching Time Devoted to Each Content Area (Schools That Timetable Health)

Proportion of Health Teaching Time (as %)	Content areas						
	Dental Health	Safety	Mental Well-Being	Nutrition	Environmental Health	Physical Well-Being	Interpersonal Relationships
	Grade 7						
0	34%	29%	34%	23%	46%	17%	48%
1-5	18	17	15	8	20	-	15
6-10	31	28	18	18	18	6	20
11-15	8	6	12	5	9	6	3
16-20	5	12	9	29	2	26	5
21-25	2	6	2	6	3	5	2
26-30	2	-	3	6	-	17	3
31-35	-	-	-	-	-	5	-
More than 35	2	2	7	3	2	20	5
	Grade 8						
0	57%	31%	35%	23%	46%	17%	48%
1-5	9	15	11	8	17	2	9
6-10	20	20	28	11	22	11	23
11-15	5	11	8	14	8	6	6
16-20	6	17	9	26	5	25	2
21-25	-	3	2	5	-	5	2
26-30	2	-	3	5	-	12	6
31-35	-	-	-	3	-	5	-
More than 35	2	4	5	7	3	20	4
	Grade 9						
0	68%	46%	38%	42%	54%	34%	52%
1-5	9	15	8	8	15	2	6
6-10	12	22	20	14	17	6	20
11-15	6	6	8	8	6	5	5
16-20	3	8	11	17	6	15	3
21-25	-	3	6	3	2	6	2
26-30	2	-	3	6	-	15	5
31-35	-	-	-	-	-	5	-
More than 35	-	-	7	3	-	13	9

Table 34

Percentage of Schools Reporting the Proportion of Health Teaching Time Devoted to Each Content Area (Schools That Both Timetable Health and Also Integrate It Within Other Subjects)

Proportion of Health Teaching Time (as %)	Content areas						
	Dental Health	Safety	Mental Well-Being	Nutrition	Environmental Health	Physical Well-Being	Interpersonal Relationships
	Grade 7						
0	40%	35%	35%	40%	44%	31%	46%
1-5	19	15	8	4	21	-	4
6-10	23	21	17	27	23	15	29
11-15	4	10	8	13	6	8	8
16-20	13	15	23	15	2	8	6
21-25	2	4	2	-	4	6	-
26-30	-	-	4	-	-	2	4
31-35	-	-	-	-	-	2	-
More than 35	-	-	2	2	-	27	2
	Grade 8						
0	48	40	42	50	42	38	46
1-5	23	10	2	4	21	-	4
6-10	17	23	19	21	19	17	25
11-15	4	10	8	13	8	6	13
16-20	8	8	19	10	4	13	6
21-25	-	4	2	-	4	6	-
26-30	-	-	6	-	2	4	4
31-35	-	2	-	-	-	-	-
More than 35	-	2	2	2	-	14	2
	Grade 9						
0%	58%	48%	50%	52%	52%	46%	56%
1-5	17	8	2	13	13	2	4
6-10	19	21	13	15	17	19	17
11-15	6	8	15	8	13	6	10
16-20	-	8	10	8	2	13	8
21-25	-	4	4	-	4	2	-
26-30	-	2	4	-	-	4	2
31-35	-	-	-	-	-	-	-
More than 35	-	-	2	4	-	8	2

Background of Teachers

School administrators reported on the background of teachers in their schools that either teach Health as a separate subject or teach specified Health content areas within other subjects. As Health is often taught by several teachers within a school, administrators described the background of up to 6 designated teachers of Health or of Health content areas. The column percents do not total 100 because the same teachers may be reported in more than one category or not at all. Table 35 illustrates the background of teachers that are in schools that timetable Health, integrate Health within other subjects, and both timetable and integrate Health. For example, 26% of the administrators in schools where Health is timetabled as a separate subject have reported that their first designated teacher of Health in the school has post -secondary training in Health.

Table 35

Percentage of Administrators Who Have Described the Background of Teachers That Teach Health or Health Content Areas

Background	Teachers of Health					
	First	Second	Third	Fourth	Fifth	Sixth
Schools that timetable Health						
Post-secondary Training in Health	26%	8%	3%			
Post-secondary Training in Physical Education	43	15	3			
University Courses in Health Methods	20	2	2			
Interest	57	26	15			
Schools that integrate Health						
Post-secondary Training in Health	23%	17%	11%	6%	2%	
Post-secondary Training in Physical Education	38	28	17	4	4	
University Courses in Health Methods	21	14	9	1	2	
Interest	33	28	23	15	6	
Schools that both timetable and integrate Health						
Post-secondary Training in Health	31%	6%	2%	2%	2%	6%
Post-secondary Training in Physical Education	48	15	6	2	2	2
University Courses in Health Methods	21	4	2	2	-	2
Interest	52	35	25	13	13	4

Health resources

School administrators reported on the Health resource materials that were used in their schools and stated whether or not these materials were suitable. Table 36 presents information on schools that timetable Health as a separate subject, integrate Health content areas within other subjects, and both timetable Health and integrate it within other subjects. For example, 58% of schools that timetable Health as a separate subject use kits for some or all units; 49% find these kits suitable and 2% find them unsuitable. It is apparent from these statistics that not all who responded to using the resources reported on their suitability.

Table 36

Percentage of Schools That Use Listed Health Resources and Report on Their Suitability

Resources	Using resources	Suitability of resources	
		Suitable	Not suitable
Schools that timetable Health			
Kits for some or all Units	58%	49%	2%
Texts	88	60	23
Lab Materials	17	14	3
Pamphlets	75	72	-
Films	82	74	5
Curriculum Guides	60	45	12
Schools that integrate Health			
Kits for some or all Units	44%	40%	4%
Texts	60	40	16
Lab Materials	35	33	1
Pamphlets	80	72	2
Films	78	69	2
Curriculum Guides	38	31	6
Schools that both timetable and integrate Health			
Kits for some or all Units	56%	50%	2%
Texts	90	48	38
Lab Materials	31	27	2
Pamphlets	83	77	2
Films	90	81	4
Curriculum Guides	79	60	15

Certain agencies and organizations assist schools in their Health instructional program by providing both human and material resources. Table 37 depicts the percentage of schools that have utilized the services of from 0 to 5 organizations in the 1981-82 school year. For example, 18% of schools that timetable Health as a separate subject did not use the resources of any agencies.

Table 37

Percentage of Schools Assisted by Agencies

School timetabling format for Health	Number of agencies					
	0	1	2	3	4	5
Timetabled schools	18%	24%	27%	17%	9%	5%
Integrated schools	30	19	20	17	12	2
Timetabled and integrated	17	16	27	21	11	8

Tables 38, 39, and 40 indicate the percentage of schools that received specific assistance from agencies or organizations in the 1981-82 school year. Table 38 indicates the assistance received by schools that timetable Health; Table 39 indicates the assistance received by schools that integrate Health within other subjects; and Table 40 indicates the assistance given to schools that both timetable and integrate Health. For example, in Table 38, 9% of schools that timetable Health received "materials" assistance from the Alcoholism Foundation of Manitoba and 6% of these schools received "speaker" assistance. These percentages are not mutually exclusive; those schools that received the "speaker" assistance may also have received "materials" assistance.

School administrators who reported on organizations and agencies that were involved in their schools in 1981-82 also listed other agencies that they felt should be involved in their Health programs. Table 41 depicts the percentage of school administrators who listed other agencies that they felt should be involved.

Table 38

Agencies/Organizations That Have Been Most Useful in Assisting Grade 7, 8, and 9 Teachers in Their Health Programs in the 1981-82 School Year (Schools That Timetable Health as a Separate Subject)

Agency/Organization	Type of assistance and percentage of occurrences			
	Materials	Consultant	Speaker	Other
Alcoholism Foundation of Manitoba	9%	-	6%	-
Canadian Cancer Society	14	5%	5	2%
Canadian Red Cross Society	14	9	-	-
Education Department - Manitoba	6	2	2	2
Family Life Organization	3	-	2	3
Fire Department	-	-	-	-
Health and Welfare - Canada	2	-	-	-
Health Department - Manitoba				
Community Health Services Directorate	9	6	8	-
Dental Health Services	18	6	17	2
Home Economics Directorate	3	2	2	2
Public Health (General)	8	6	11	-
Public Health Nursing Directorate	17	18	18	2
Manitoba Heart Foundation	6	2	2	-
Manitoba Milk Producers' Marketing Board	5	2	2	-
Manitoba Lung Association	2	-	-	-
Manitoba Safety Council	-	-	-	-
National Film Board	-	-	-	-
Physician	3	5	3	-
Planned Parenthood (Manitoba) Limited	3	-	-	-
Police Department or R.C.M.P.	6	2	9	-
St. John Ambulance	5	-	-	-
School Division	5	-	2	2
School Guidance Counsellor	-	-	-	-
Social Worker	-	-	-	-

Table 39

Agencies/Organizations That Have Been Most Useful in Assisting Grade 7, 8, and 9 Teachers in Their Health Programs in the 1981-82 School Year (Schools That Integrate Health Within Other Subjects)

Agency/Organization	Type of assistance and percentage of occurrences			
	Materials	Consultant	Speaker	Other
Alcoholism Foundation of Manitoba	5%	2%	6%	1%
Canadian Cancer Society	5			
Canadian Red Cross Society	6	1	5	1
Education Department - Manitoba	7	1		
Family Life Organizations				
Fire Department				
Health and Welfare - Canada	2	1	1	1
Health Department - Manitoba				
Community Health Services Directorate	5	1	5	
Dental Health Services	10	9	12	2
Home Economics Directorate	4	2	2	
Public Health (General)	12	10	19	
Public Health Nursing Directorate	25	26	30	1
Manitoba Heart Foundation	7			
Manitoba Milk Producers' Marketing Board	1	1	1	
Manitoba Lung Association	2			
Manitoba Safety Council	1	1		
National Film Board	1			
Physician	1	1	4	
Planned Parenthood (Manitoba) Limited	2	1	2	
Police Department or R.C.M.P.	6	6	1	1
St. John Ambulance	1	1	2	
School Division	2	1		
School Guidance Counsellor	1	4	2	
Social Worker	2	2	2	

Table 40

Agencies/Organizations That Have Been Most Useful in Assisting Grade 7, 8, and Teachers in Their Health Programs in the 1981-82 School Year
(Schools That Both Timetable and Integrate Health)

Agency/Organization	Type of assistance and percentage of occurrences			
	Materials	Consultant	Speaker	Other
Alcoholism Foundation of Manitoba	19%	15%	8%	2%
Canadian Cancer Society	10	2	10	
Canadian Red Cross Society	8		2	
Education Department - Manitoba	4			
Family Life Organizations				
Fire Department	2	2	4	
Health and Welfare - Canada	2			
Health Department - Manitoba				
Community Health Services Directorate	6	4	4	2
Dental Health Services	23	21	19	6
Home Economics Directorate	2	2		
Public Health (General)	19	25	17	2
Public Health Nursing Directorate	25	17	25	2
Manitoba Heart Foundation	2		4	
Manitoba Milk Producers' Marketing Board	6			2
Manitoba Lung Association	2			
Manitoba Safety Council				
National Film Board				
Physician			4	
Planned Parenthood (Manitoba) Limited)	4			
Police Department or R.C.M.P.	17	13	19	4
St. John Ambulance	6	2	2	
School Division	2			
School Guidance Counsellor	2	2	2	
Social Worker				

Table 41

Percentage of School Administrators Who Suggest Other Agencies that Should Be Involved in their Health Programs

Agency/Organization that should be involved	School timetabling format for Health		
	Timetabled	Integrated	Timetabled & integrated
Alcoholism Foundation of Manitoba	3%	6%	8%
Block Parents	-	1	4
Canadian Cancer Society	-	2	-
Canadian Red Cross Society	-	2	2
Education Department - Manitoba	2	-	-
Family Life Organizations	-	-	-
Fire Department	-	-	-
Health and Welfare - Canada	2	-	-
Health Department - Manitoba			
Community Health Services Directorate	5	4	6
Dental Health Services	3	1	-
Home Economics Directorate	-	-	-
Public Health (General)	2	1	10
Public Health Nursing Directorate	8	4	2
Manitoba Heart Foundation	-	2	-
Manitoba Milk Producers' Marketing Board	2	1	-
Manitoba Lung Association	-	1	-
Manitoba Safety Council	2	-	-
National Film Board	-	1	-
Physician	2	6	2
Planned Parenthood (Manitoba) Ltd.	3	2	-
Police Department or R.C.M.P.	-	1	4
St. John Ambulance	-	2	4
School Division	-	-	2
School Guidance Counsellor	3	1	2
Social Worker	2	-	-

Student Evaluation

School administrators stated whether or not they evaluated and reported on student progress in Health education and on evaluation methods used in their schools. Eighty-six percent of schools that timetable Health formally evaluate and report on student progress while 28% of schools that teach Health through integration within other subjects formally evaluate and report on student progress. Table 42 depicts the percentage of administrators who ranked the individual evaluation methods that their teachers use. For example, 28% of schools that

timetable Health as a separate subject place the greatest emphasis on tests as an evaluation method. Column and row percents do not add to 100 because not all schools reported that they formally evaluate Health or they did not rank all of the specific evaluation methods mentioned in the tables.

Table 42

Percentage of School Administrators Who Have Ranked Evaluation Methods According to Emphasis Placed on Each Method

	Rank					
Evaluation method	1	2	3	4	5	6
Schools that timetable Health						
Tests	28%	12%	12%	5%	5%	
Projects, assignments	25	23	8	6	3	
Work habits	3	12	20	14	3	
Health habits	3	14	9	5	9	
General attitude	11	12	12	11	5	
Schools that integrate Health within other subjects						
Tests	6%	4%	-	1%	-	
Projects, assignments	5	5	2%	-	-	
Work habits	-	2	6	1	1%	
Health habits	1	-	-	2	2	
General attitude	1	2	2	4	1	
Schools that both timetable and integrate Health						
Tests	19%	21%	6%	4%	13%	
Projects, assignments	29	19	10	6	-	
Work habits	-	4	25	19	8	
Health habits	6	2	10	8	21	
General attitude	8	19	15	15	4	

School Budgets for Health

School administrators reported on the number of dollars spent on Health materials for the last 2 school years. Table 43 depicts respectively the Health budgets for schools that timetable Health, schools that integrate Health and schools that both timetable and integrate Health instruction. For example, 65% of schools that timetable Health as a separate subject spent less than $25.00 for Health materials in the 1981-82 school year.

Table 43

School Budgets for Health Materials

Year	Number of Dollars					
	Less than 25	25-49	50-74	75-99	100-200	Over 200
	Schools that timetable Health					
1981-82	65	6	2	14	8	6
1980-81	75	3	-	6	9	6
	Schools that integrate Health					
1981-82	72	2	2	6	9	9
1980-81	78	5	2	2	10	2
	Schools that both timetable and integrate Health					
1981-82	60	8	2	8	13	8
1980-81	63	13	4	10	6	4

Concerns Expressed by Administrators Through Their Comments

Fifty-three percent of the school administrators voluntarily made personal comments on the questionnaires. These comments have been categorized and summarized and are reported below along with typical comments that reflect the schools' concerns for their Health programs.

New curriculum needed. Several administrators referred to the need for a revised curriculum. Some comments were:

> Certainly need to formalize the program more. By integrating into present programs, it tends to get left out entirely.
>
> Teachers presently feel that the Health texts and curriculum are too old and outdated. There certainly is a need for an up-to-date revised program that does not repeat work studied in the new revised Science program.
>
> The up-to-date Health curriculum should be most useful in planning a relevant program for our junior high students.

Better texts and available resources. School administrators commented on the need for better texts and resources. The opinions expressed were that present texts and materials were outdated and that the Health programs suffered as a result. Typical comments were:

> Most Health texts are outdated. If Health is to be a viable subject, good standardized materials should be available, and inservice time for teachers should be improved.

> We would like to have an appropriate text. Our Health program has suffered because of the materials that we were using.
>
> It would be nice to have some prepared materials to which to refer in development of the program, as opposed to digging it all up in the form of pamphlets and coordinating it into a whole. Perhaps more audio-visual aids could be purchased by the Division or Department of Education with specific application to the areas of the curriculum rather than borrowing/ making arrangements re films and kits with other agencies that have the same office hours as the school

Time constraints. Health receives less emphasis than it should because of the pressure for time from other disciplines and declining enrollment. Typical comments were:

> If Health were to be scheduled as a separate subject, we must be told what to take away! Phys. Ed. time? Science time? Home Economics time?
>
> Because of the time constraints re: Teaching 'full' L. A. and Francais programs, we do not have time left to schedule Health classes.
>
> We dropped Health from our offering as we teach two languages besides English.
>
> At one time, we offered a combined Guidance/ Health program with a majority emphasis on Health. This was a good program, but with declining enrollment and cut-back of staff, Health has been sacrificed.
>
> Given the suggested time allotments of compulsory core subjects added to those options, somewhere along the way a longer day would be required to add timetabled Health to the school day.

Lack of interest and credibility. There was a decided lack of interest in Health as a subject on the part of certain school administrators. They state that Health is generally treated in an incidental manner. Some comments were:

> Health is not considered as an important subject - it's only Health.
>
> Health as a school subject does not and will never have credibility with either students or staff.
>
> Difficult to maintain as a "high profile" subject.
>
> Perhaps too much of the material has already been taught and retaught at the elementary level . . .
>
> Health has always been considered as a non-essential and somewhat of a waste of time for the Junior High grades. Plans for the future include a phasing in of computer courses in place of Health.

Integration with other subjects. Many school administrators favor integrating Health topic areas within other subjects, especially Science and Physical Education. Typical comments were:

> By integrating Health concepts in various subject areas, the message can then be conveyed in a more subtle manner. Students are then more receptive.
>
> It is preferable to integrate Health with other subjects.
>
> Most of the Junior High Health is covered in the Science - so we don't really need a Health course.
>
> Greater need for incorporating it as part of the total Physical Education program.
>
> In our school, Health has been integrated with Physical Education and it seems to have a low priority with that program.

Need for improvement. Several administrators reported that improvement of the Health program is imperative. Comments follow:

> It is imperative that a serious attempt be made at providing a Behavioral Skills Package in Health education.
>
> We have not influenced the habits of our students . . the transfer of information to daily lifestyle is negligible.
>
> We would like to see the Health program directed more towards Life Skills with an increased amount of class time.
>
> Considering that reproduction is taught in detail in a grade 9 Biology unit, there should be a follow-up on this ground work in areas like birth control or venereal disease.
>
> Our school Health program does not meet the needs of our students. Today's youngsters are bombarded with mega problems - drinking, drugs, premarital sex, birth control, abortion, pornography, marriage breakdown, etc. The Health program cannot use the 'early to bed, early to rise' approach anymore. Youngsters have to be made aware of the impact of those threats on their health (physical, psychological, moral) and be given the means to react in a sane way.
>
> Fifteen pregnancies this year - yet no family life program because the board feels - keep them ignorant - then they wouldn't do it . . . HELP!!! No V.D. education is allowed - incredible.

General satisfaction with program. Certain school administrators expressed satisfaction with the Health programs in their schools. They reported that they had sufficient resources, support, and commitment to Health education. Some typical comments were:

> I am quite satisfied that Health is being taught well at our school.
>
> Excellent support from school division resources and quite good response from the community and students.
>
> The program is very beneficial to the students.
>
> We have a new Frontier Health curriculum guide which is aimed at the North, and is excellent.

Conclusions and Recommendations

Grade 3 to 6 Survey

1. The survey data indicate that 58% of grade 3 to 6 teachers timetable Health as a separate subject, 29% both timetable Health and also integrate it within other subjects, while 14% do not timetable Health, but do integrate it within other subjects.

2. Teachers of 4, 5, and 6 who integrate Health within other subjects do so primarily in Science and Language Arts, while teachers of grade 3 integrate Health mainly in Social Studies, Science, and Language Arts.

3. Three-quarters of teachers who timetable Health are on a 5 or 6 day timetable cycle and the majority of these teach Health from 20 to 60 minutes per cycle.

4. Teachers who timetable Health as a specific subject spend most of their instructional time in the Dental Health, Safety, Mental Well-Being, Nutrition, and Physical Well-Being content areas and little time in the Environmental Health and Interpersonal Relationships content areas.

RECOMMENDATIONS: That teachers provide instruction time for Health education as recommended by Department of Education guidelines.

That teachers of Health spend an appropriate amount of teaching time for each content area.

5. The majority of teachers use a variety of resources in the teaching of Health. Teachers are more satisfied with kits, pamphlets, and films than they are with texts and the curriculum guide. Teachers who integrate Health within other subjects are less likely to use Health texts and the curriculum guide than are those teachers who timetable Health as a separate subject.

RECOMMENDATION: That teachers be made aware of the new provincial Health curriculum that is presently being piloted in Manitoba schools.

6. There are numerous governmental and non-governmental agencies in the Province that provide support to teachers in their Health programs. Teachers in general do not take advantage of this assistance. For example, approximately 1 to 2% of teachers have had the assistance of the Manitoba Lung Association or the Manitoba Safety Council in the past school year. Agencies of the Provincial Department of Health such as Dental Health Services and the Public Health Nursing Directorate were the agencies most frequently recorded as being most useful to teachers.

7. There seems to be very little money expended for Health classroom materials. Approximately nine-tenths of teachers who timetable Health spent less than $25.00 on Health classroom materials in the last school year.

RECOMMENDATION: That the Department of Education prepare a list of recommended Health resource materials that support the new Health curriculum.

8. Student knowledge in Health is usually evaluated and reported by teachers who timetable Health, but those teachers who integrate Health within other subjects do not usually evaluate and report on student performance in Health either as a separate subject or as separate units within other subjects. Those teachers who do evaluate student performance use tests, projects, and assignments as their basic instruments of evaluation.

RECOMMENDATION: That the Department of Education provide evaluative models and materials to assist teachers in the assessment of student lifestyle practices.

9. A small minority of grade 3 teachers use Health texts. Approximately three-quarters of the teachers of grades 4, 5, and 6 who timetable Health use Health texts, while less than one-half of the teachers who integrate Health use Health texts. The Health Science Series (Doubleday 1968) is the most frequently used Health textual resource.

RECOMMENDATION: That the Department of Education recommend textbooks that support the new Health Curriculum.

10. Teachers stated that the most important teacher preparation topics were "techniques used in teaching Health" and "preparation of Health materials".

RECOMMENDATIONS: That post-secondary institutions be aware of the teacher training areas that classroom teachers believe are most important to Health instruction.

That teachers be encouraged to update their knowledge of Health related topics through inservices and university courses.

Administrator Survey

1. The survey data indicate that 34% of the schools timetable Health as a separate subject; 42% integrate Health topics within other subjects and 25% both timetable Health and integrate Health content areas within other subjects.

2. Health content areas are integrated mainly with Science, Physical Education, and Guidance and the content areas that receive most attention in terms of time in these subjects are Mental Well-Being, Nutrition, Physical Well-Being, and Interpersonal Relationships.

3. A majority of schools that timetable Health as a separate subject are on a 5 or 6 day timetable cycle. There is a great variation in the amount of Health instructional time in these schools. For example, in schools where Health instruction is implemented through both timetabled and integrated formats, 35% of grade 9 classes receive less than 20 minutes of Health instruction per cycle while 21% receive more than 100 minutes per cycle.

4. In schools where Health is timetabled as a specific subject, most of the instructional time is spent in Physical Well-Being and Nutrition with Mental Well-Being and the Safety content areas receiving the next greatest proportion of Health instructional time. Schools that both timetable and integrate Health instruction place the greatest emphasis on Physical Well-Being and Mental Well-Being while least emphasis is placed on the Dental and Environmental Health content areas.

RECOMMENDATIONS: That teachers provide instruction time for Health education as recommended by Department of Education guidelines.

That teachers of Health spend an appropriate amount of teaching time for each content area.

5. The most likely qualifications of teachers of Health in grade 7, 8, and 9 are that they have interest in the subject and have post-secondary training in Physical Education.

6. The majority of teachers use a variety of resources in their classrooms. Teachers are more satisfied with kits, pamphlets, and films than they are with texts and the curriculum guide. Teachers who integrate Health within other subjects are less likely to use Health texts and the curriculum guide than are those teachers who timetable Health as a separate subject.

RECOMMENDATION: That teachers be made aware of the new provincial Health curriculum that is presently being piloted in Manitoba schools.

7. There are numerous governmental and non-governmental agencies in the Province that provide support to Health teachers in their programs. Relatively few schools take advantage of these outside resources. Agencies of the Provincial Department of Health, such as Dental Health Services and the Public Health Nursing Directorate were the agencies most frequently recorded as being most useful to teachers.

8. Student performance in Health is usually evaluated and reported on by teachers who timetable Health as a separate subject, but those teachers who integrate Health within other subjects do not usually evaluate student performance. Those teachers who do evaluate student performance place the greatest emphasis on tests, and projects and assignments as their instruments of evaluation.

RECOMMENDATION: That the Department of Education provide evaluative models and materials to assist teachers in the assessment of student lifestyle practices.

9. There is very little money expended on Health related materials in the schools; for example, 65% of schools that timetable Health spent less than $25.00 on Health related materials during the last school year.

RECOMMENDATION: That adequate resources be provided to schools for the teaching of Health by school divisions and the Department of Education.

CHAPTER VI

CONCLUSIONS AND RECOMMENDATIONS

The Health Assessment was intended to provide provincial data about the level of student achievement in Manitoba to those responsible for the educational system. This Chapter provides a condensation of the conclusions for each test administered, and the teacher and administrator surveys, as well as a summary of recommendations based upon a synthesis of the student achievement results and the survey data. Recommendations are written in greater detail in the student achievement and survey chapters.

Grade 5 Conclusions

Student performance was satisfactory in the Dental Health content area. Although the performance was judged satisfactory, only 28% of students are flossing their teeth once a day. This fact is judged crucial in view of the fact that dental caries remains the most common disease in all age groups with the possible exception of the common cold (Department of National Health and Welfare, Canada, 1970).

Student performance in Safety was judged as very satisfactory. However, since it is general knowledge that accidents are a leading cause of death, Safety continues to be a high priority content area.

Student performance on self-concept was very satisfactory. Students demonstrated an awareness of the importance of peoples' different values and special abilities. Male score was lower than that of females in this category. Students are generally happy at school, but are somewhat reluctant to communicate with others about emotions such as anger and disappointment. Knowledge of drugs and their effects is marginal, although students appear to understand the effect of smoking.

Student knowledge of food groups, nutrients, and balancing meals is unsatisfactory. Students have the knowledge of snack selection but often indicated that they would choose non-nutritious snacks. Male scores in this category were lower than female scores. Students also indicated that snacks selected at home are more nutritious than those selected outside of the home.

Knowledge of Environmental Health was below the satisfactory level. Students were well aware that man is the major cause of pollution. An awareness and appreciation for health and community services was apparent. Specifically, students felt that play areas and community clubs are not as important as safe drinking water, clean air, police and hospital services.

Performance in the Physical Well-Being content area was less than satisfactory. Students lacked an understanding of the major sensory organs and cardio-respiratory system.

Demonstrated performance in the Interpersonal Relationships content area was marginal. Male scores were well below female scores in this content area. Students are beginning to think in terms of assertive communication.

Grade 5 Recommendations

1. That the practice of good dental care be strongly emphasized in the schools as well as in the home.
2. That safety and accident prevention continue to be stressed; that students be taught that accidents can be prevented and that students be provided with accident prevention programs that promote responsible behaviour.
3. That constructive communication of negative feelings be encouraged and facilitated.
4. That stronger emphasis be placed on drug education, particularly on alcohol and caffeine.
5. That serious efforts be made to improve student understanding of food classification, nutrients, snack selection, and balancing of meals.
6. That immunization and disease control receive greater emphasis in the schools.
7. That habits of hygiene be reinforced at school as well as at home.
8. That strong emphasis be placed on the major sensory organs and cardio-respiratory systems.
9. That the development of skills and concepts that nurture friendship be emphasized in the schools.

Grade 10 Conclusions

Performance of students in Dental Health was marginal. The number of students who floss once a day is low - 22%. This compares with 28% at the grade 5 level.

Student performance in home, school, community, and traffic safety is very satisfactory, but knowledge of life support assistance methods is inadequate.

Students demonstrated an understanding of some aspects of personality and of social responsibility. Student performance in the knowledge of smoking and its effects is satisfactory. Male mean scores were lower than female mean scores.

Student performance was well below the satisfactory level in the areas of nutrients, food groups, balancing meals, and consumerism. Male mean scores were below those of the females. The structure and function of the digestive system is poorly understood.

Performance in the Environmental Health content area was satisfactory on the whole. Students seemed somewhat confused about positive actions and alternative ways in which to deal with environmental issues, both individually and at the community level.

Performance was generally good on the fitness items in the Physical Well-Being content area, but poor on the body system items. Knowledge of the effects of drugs on the fetus is unsatisfactory. Students are aware that drugs do affect the fetus, but do not know how this occurs.

Performance in the Interpersonal Relationships content area was satisfactory. Students are knowledgeable about family functions and stability. Students are comfortable in their present life stage. Male mean scores are lower than those of the females. Girls see themselves succeeding in low income and handicapped families much better than boys.

Grade 10 Recommendations

1. That dental care and maintenance be emphasized throughout grades 7, 8, and 9 and that teachers and dental hygienists make a co-operative effort to provide both dental education and services in the schools.
2. That strong emphasis needs to be continued on accident prevention.
3. That first aid instruction be provided by qualified instructors.
4. That opportunities be provided for strengthening "self image".

5. That balanced meal planning, nutrition-oriented shopping, and food preparation be addressed in the schools.
6. That the teaching of nutrition and digestion be strongly emphasized.
7. That emphasis be placed on student awareness of individual and community responsibilities for environmental issues.
8. That much greater emphasis be placed on all body systems and on disease prevention and control.

Grade 3 to 6 Survey Conclusions

The majority of grade 3 to 6 teachers timetable Health into their programs of studies and teach this subject up to 1 hour per school week or cycle. Teachers spend most of their Health teaching time instructing in Dental Health, Safety, Mental Well-Being, Nutrition, and Physical Well-Being and spend very little or no time instructing in the Environmental Health and Interpersonal Relationships areas. Grade 4 to 6 teachers who integrate Health within other subjects do so primarily in Science and Language Arts while their counterparts in grade 3 integrate Health within Social Studies, Science, and Language Arts. The majority of teachers use a variety of resources in their classrooms. Teachers are more satisfied with kits, pamphlets, and films than they are with texts and curriculum guides. (There is a new provincial curriculum guide in preparation.) There are numerous governmental and non-governmental agencies in the province that provide support to teachers in their Health programs. This assistance is felt in only a minimal way in the classroom. There is very little money expended for Health classroom materials. Student knowledge in Health is usually evaluated and reported by teachers who specifically timetable Health as a subject, but those teachers who integrate Health within other subjects do not usually evaluate and report on student performance. A small minority of grade 3 teachers use Health texts. Approximately three-quarters of teachers of grades 4, 5, and 6 who timetable Health use Health texts, while less than one-half of the teachers who integrate Health use texts. Teachers stated that the teacher preparation topics they were most interested in were "techniques used in teaching Health" and "preparation of Health materials".

Administrator Survey Conclusions

These findings are based upon information provided by principals and teachers of grades 7, 8, and 9 students. Approximately one-third of the administrators state that Health is timetabled as a separate subject while two-fifths integrate Health within other subjects and one-quarter do both. Integration takes place mainly in Science, Physical Education, and Guidance and the content areas that receive most attention in terms of time in these subjects are Mental Well-Being, Nutrition, Physical Well-Being, and Interpersonal Relationships. The majority of schools that timetable Health are on a 5 or 6 day cycle and spend between 20 and 80 minutes per cycle on Health in grades 7 and 8. Less time is devoted to Health at the grade 9 level. Schools that teach Health through a timetabled format only, devote a great proportion of their Health teaching time to Nutrition and Physical Well-Being and a lesser amount of time to Dental Health, Environmental Health, and Interpersonal Relationships. In those schools that both timetable Health and also integrate it within other subjects, the greater emphasis is placed on the Physical Well-Being and Mental Well-Being areas while least emphasis is placed

on the Dental Health and Environmental Health areas. The most likely qualification of Health teachers in grade 7, 8, and 9 schools are that they have post-secondary training in Physical Education and interest in the subject. The majority of teachers use a variety of resources in their classrooms. Teachers are more satisfied with kits, pamphlets, and films than they are with texts and the curriculum guide (there is a new curriculum guide in preparation). There are numerous governmental and non-governmental agencies in the province that provide assistance to teachers in their Health programs. Relatively few schools take advantage of these resources. There is very little money expended on Health related materials in the schools. Those teachers who formally evaluate and report on student progress place the greatest emphasis on tests, projects, and assignments as their instruments of evaluation.

General Survey Recommendations

1. That teachers provide instruction time for Health education as recommended by Department of Education guidelines.
2. That teachers spend an appropriate amount of Health teaching time in each content area.
3. That teachers be made aware of the new provincial Health curriculum presently being piloted in Manitoba schools.
4. That the Department of Education prepare a list of recommended Health resource materials that support the new Health curriculum.
5. That the Department of Education provide evaluative models and materials to assist teachers in the assessment of student lifestyle practices.
6. That teachers be encouraged to update their knowledge of Health related topics through inservices and university courses.

APPENDIX

Table A

Average Percentage Correct For Males, Females, and Total Student Sample For Each Subtest and Interpretation Panel Ratings
Grade 5

Subtests		Interpretation Panel rating	Average percentage correct		
			Female	Male	Total
I.	DENTAL HEALTH				
I.A	Importance and Purpose	very satisfactory	73	73	73
I.B	Environmental Factors & Personal Care	satisfactory	72***	67	69
II.	SAFETY				
II.A	Home and Traffic	very satisfactory	80*	79	80
II.B	School	very satisfactory	79	76	77
III.	MENTAL WELL-BEING				
III.A	Self-concept	very satisfactory	83***	73	78
III.B	Personality	-	-	-	-
III.C	Drug Use & Abuse, Personal Management	marginal	59	58	58
IV.	NUTRITION				
IV.A	Acceptability and Appreciation	-	-	-	-
IV.B	Food Groups, Nutrients	unsatisfactory	52***	47	49
IV.C	Snacks	satisfactory	71***	61	65
IV.D	Balanced Meals	unsatisfactory	47***	41	44
V.	ENVIRONMENTAL HEALTH				
V.A	Environmental Factors	unsatisfactory	47	50*	49
V.B	Environmental Health Issues	unsatisfactory	63*	57	60
VI.	PHYSICAL WELL-BEING				
VI.A	Sense Organs	unsatisfactory	60	59	60
VI.B	Hygiene	-	-	-	-
VI.C	Fitness	marginal	64	63	64
VII.	INTERPERSONAL RELATIONSHIPS	marginal	62***	54	58

Note. Significance levels

* = 0.05
** = 0.01
*** = 0.001

APPENDIX

Table B

Average Percentage Correct For Males, Females, and Total Student Sample For Each Subtest and Interpretation Panel Ratings
Grade 10

Subtests		Interpretation Panel rating	Average percentage correct		
			Female	Male	Total
I.	DENTAL HEALTH				
I.A	Environmental Factors and Personal Care	marginal	62*	59	60
II.	SAFETY				
II.A	Home, School, Community, Traffic	very satisfactory	78	79	78
II.B	Life Support Assistance Methods	marginal	67	69	68
III.	MENTAL WELL-BEING				
III.A	Self-concept and Personality	very satisfactory	80***	74	77
III.B	Drug Use & Abuse, Personal Management Skills	satisfactory	78***	71	75
IV.	NUTRITION				
IV.A	Food Groups, Nutrients	unsatisfactory	69***	59	64
IV.B	Nutritional Effects	satisfactory	74***	64	69
IV.C	Food Influences, Weight Control	satisfactory	59	59	59
IV.D	Consumer Knowledge, Food Preparation, Balanced Meals	unsatisfactory	66***	56	61
IV.E	Digestion and Elimination	unsatisfactory	40	41	41
V.	ENVIRONMENTAL HEALTH				
V.A	Environmental Issues	very satisfactory	82	82	82
V.B	Health Care System, Solutions	satisfactory	67	70**	68
VI.	PHYSICAL WELL-BEING				
VI.A	Growth and Development	marginal	68	65	67
VI.B	Endocrine and Reproduction	unsatisfactory	60**	56	58
VI.C	Disease Control and Prevention	unsatisfactory	66**	62	64
VII.	INTERPERSONAL RELATIONSHIPS				
VII.A	Life as a Process	very satisfactory	70	67	68
VII.B	Family Functions and Stability	satisfactory	78***	69	73

Note. Significance levels are shown by asterisks*

* = 0.05
** = 0.01
*** = 0.001